THE FINANCING OF EDUCATION

IN

THE STATE OF NEW YORK

A REPORT REVIEWED AND PRESENTED BY

THE EDUCATIONAL FINANCE INQUIRY COMMISSION

UNDER THE AUSPICES OF

THE AMERICAN COUNCIL ON EDUCATION

WASHINGTON, D. C.

THIS REPORT WAS PREPARED FOR THE COMMISSION BY

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FOREWORD

One of the most important and most difficult problems now confronting the American people is that of public education.[1] The problem is twofold. It relates, on the one hand, to the character and extent of the public education that should be furnished; and on the other, to the cost of carrying out the educational program that is proposed and the practicability of obtaining the necessary financial support. The growing importance of the financial question has been emphasized at almost every educational conference since 1918. Resolutions urging a thorough investigation of the cost of education, and of the public resources available to support it, were passed at the Citizens' Conference on Education, called by the United States Commissioner of Education, in May, 1920. A group of those interested in this question conferred at the time of the meeting of the Department of Superintendence of the National Education Association in Atlantic City in February, 1921. The group designated this question as the most vital one now confronting school administrators and appointed a committee to assist in launching an investigation.

The committee named at Atlantic City met in New York in August, 1921. It prepared at that time a memorandum indicating the scope of an inquiry concerning the financing of education and proposing that a commission be appointed to carry forward the undertaking. This memorandum was submitted to the executive officers of the Commonwealth Fund, the General Education Board, the Carnegie Corporation, and the Milbank Memorial Fund. These officers had already indicated their interest in such an undertaking. The several boards mentioned accepted the memorandum presented and provided funds for the conduct of the Inquiry. These funds were placed in the hands of the American Council on Education, with the distinct understanding that the responsibility of the boards donating the money ended with the payment of these funds to the Council. The individuals whose names appear in this report were appointed as a commission to conduct the investigation and were given entire responsibility for the work to be undertaken.

Headquarters for assembling and interpreting data were informally opened at Teachers College in late September, 1921, and were well staffed and under way by October 24, when the first regular meeting of the Com-

[1] Throughout the report "public education" is used in the popular sense to mean tax-supported education. "Public schools" is to be interpreted as meaning tax-supported schools. The Commission recognizes the fact that in a real sense all educational institutions are public in that they serve the community, the state, and the nation.

mission was held. Beginning at this time and ending in October, 1923, the Commission at varying intervals held six meetings of a week each in New York or Atlantic City and two informal one-day meetings. At these meetings the Commission outlined policies, devised and evaluated general plans of investigation, and reviewed and criticised the methods of work and the tentative drafts and later revisions of the manuscripts submitted by the Headquarters Staff.

In order that the Commission might have competent criticism of its work before publication, the American Council on Education appointed the following Advisory Committee:

Edwin R. A. Seligman, Professor of Political Economy, Columbia University, City of New York

C. E. Chadsey, Dean, School of Education, University of Illinois, Urbana, Illinois

Matthew Woll, Vice-President, American Federation of Labor, Chicago, Illinois

Wesley C. Mitchell, Director, National Bureau of Economic Research, City of New York

Will C. Wood, State Superintendent of Public Instruction, Sacramento, California

Frank Vanderlip, Publicist, City of New York

James R. Angell, President, Yale University, New Haven, Connecticut

The report presented herewith and others issued by the Commission have been reviewed by the members of the Advisory Committee. Their criticisms have been helpful and have been carefully considered by the Commission. Full responsibility for the publication rests, however, with the Commission.

The Commission desires to acknowledge its indebtedness to Dr. Frank P. Graves, Commissioner of Education of the State of New York, and to his associates, who have coöperated most efficiently with the headquarters staff in the assembling and interpretation of the data for the State of New York. The members of the Commission were fortunate in undertaking an intensive study in a state which had assembled more adequate information concerning the cost of its schools than is commonly found in state departments. They were even more fortunate in the active, intelligent, and continuous service which that state department willingly gave the Inquiry.

Superintendents of schools, and others engaged in the administration of schools in the State of New York and throughout the nation, have responded most cheerfully to our requests for information. Business and banking houses, insurance underwriters, and others have made available from their records such data as were needed, and have helped in the compilation of facts in their several fields over a wide area.

The State Comptroller has rendered valuable assistance by opening his

records for the use of the Commission. The State Tax Commission varied its work-schedule in such manner as to give to the Commission compilations of data in a special form and in advance of the date at which usually they are available.

A group of graduate students in Teachers College, Columbia University, — Harold F. Clark, Homer Cooper, John Guy Fowlkes, G. C. Gamble, W. L. Hanson, Charles W. Hunt, J. R. McGaughy, William T. Melchior, R. O. Stoops, Clarence H. Thurber, John W. Twente, — assisted in the work of the Inquiry during a period of eight months.

The Commission is indebted to Teachers College, Columbia University, for space for the work of the headquarters staff. Two rooms with light and heat have been made available for more than two years, without cost to the Inquiry.

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SUMMARY

FINANCING OF EDUCATION IN THE STATE OF NEW YORK

SUMMARY

Purpose of the Educational Finance Inquiry. — This volume represents the results of the efforts of the Educational Finance Inquiry Commission to assemble and to interpret the facts relating to the present expenditures for the several grades and institutions of public education in the State of New York; and the relation of these facts to expenditures for other public purposes and to economic resources, and to describe and explain the techniques devised for the investigation so that workers might apply them in other states. A detailed outline of the whole work is given in the Introduction, pages 19 to 21. The state's educational program, as far as it affects school finance, is represented in the diagram and the descriptions contained in Chapter II.

Population of the State. — In 1921, the population of the state numbered approximately ten and a half millions, of whom more than half lived in the City of New York. The distribution is as follows:

In City of New York	54%
In cities of 100,000 to 1,000,000	12
In cities of 25,000 to 100,000	7
In cities of 5,000 to 25,000	7
In cities of 2,500 to 5,000	3
In remainder of the state	17
	100

Administration and Control of Public Education. — The control of public education throughout the state is vested in the legislature. Under the Constitution, the legislature must provide "a system of free common schools wherein all children of the state may be educated," and may increase, modify, or diminish the corporate powers of the regents who, under the name of the University of the State of New York, act as a state board of education.

The board of regents and other state officials exercise general supervision over all public education within the state. The state, also, through its officials, carries on certain educational activities directly, such as colleges of agriculture, veterinary science, forestry, ceramics, teacher training institutions, a nautical school, state library and museum, and an extensive

scholarship system for college students. However, the administration and direct control of all elementary and secondary schools, and of most other educational activities, have been delegated by the legislature to the local authorities and are exercised principally through local boards of education.

School Enrolment, Pupils, and Teachers. — For the school year 1921 the total enrolment of pupils in all public and private (tax-supported and non-tax-supported) schools, colleges, and universities was about 2,284,000. Of these, approximately 1,960,000, or 86 per cent, were enrolled in public schools and educational institutions and the remaining 324,000, or 14 per cent, were enrolled in parochial or other non-tax-supported schools or educational institutions. The proportions varied in different parts of the school system. About 85 per cent of kindergarten and elementary school children and only about 25 per cent of higher education students were in tax-supported schools or institutions.

In 1920, according to figures and estimates furnished by the State Department, approximately 76,300 teachers were employed in the State of New York. Of these, nearly 60,000 were employed in public schools and other educational institutions, and nearly 17,000 were employed in parochial or other non-tax-supported institutions.

The Total Cost of Public Education and Its Growth. — The total state and local cash disbursements for public education in the State of New York in the fiscal year ending July 31, 1921, were $175,480,003.[1] Of this amount $148,115,510,[2] or 84.4 per cent, was for current expenses of operating the schools, $6,578,355,[3] or 3.7 per cent, was for interest on funded debt, and $20,786,138,[3] or 11.9 per cent, was for new plant (sites or buildings).

The annual accrued economic cost of the public school system (being current expenses of operation plus estimated depreciation of plant and computed interest on present value of plant) was $167,752,459 [1] for the fiscal year ending July 1, 1921. Estimated on the basis shown on page 82, the accrued economic cost of education in the private and parochial and other non-tax-supported institutions, including higher education, was $51,983,255, and the aggregate accrued economic cost of both public and private education for the school year 1920–1921 was $219,735,714.

The increases for public education from 1910 to 1921, measured in actual dollars spent, were:

Total or aggregate cash disbursements, from $59,626,228 to $175,480,003,[1] or 194 per cent.
Current expenses, from $47,521,058 to $148,115,510,[2] or 212 per cent.
Plant expenditures, from $12,105,170 to $27,364,493,[3] or 126 per cent.
Buildings and sites, from $7,923,152 [3] to $20,786,138, or 162 per cent.
Interest on funded debt, from $4,182,018 [3] to $6,578,355, or 57 per cent.
Annual accrued economic cost, from $57,781,217 [1] to $167,752,459, or 190 per cent.

[1] Table 4. [2] Table 1. [3] Table 2.

During this period of twelve years covered by these figures, school expenditures were affected by two factors which should be given due consideration. First, there was, of course, a radical change in the purchasing power of the dollar. This change, as measured by what is probably the most accurate index for measuring the dollar of school expenditure, was a decrease in purchasing power of about 51 per cent.[1] Second, there were increases in the number of pupils educated, and in extensions of the curriculum. The number of pupils enrolled in the public elementary schools increased about 19 per cent, and the number of pupils enrolled in public high schools in the state, about 72 per cent, while the whole population increased only about 15 per cent in this period. During this period compulsory continuation schools have been established. The health service has been developed. Junior high schools have been organized in many communities and the curriculum of the elementary school has been enriched.

Of the total cash disbursements for public education in 1921, $167,967,249,[2] or 95.7 per cent, were for elementary and high schools, $5,483,503,[2] or 3.1 per cent, for normal schools and colleges, and $2,029,251,[2] or 1.2 per cent, for miscellaneous general costs (chiefly for the State Department of Education). In 1910, the corresponding percentages were 95.1, 2.5, and 2.4.

The increases in actual dollars spent from 1910 to 1921 were:

Elementary and high schools, from $56,710,750 to $167,967,249,[2] or 196 per cent.
Normal schools and colleges, from $1,491,874 to $5,483,503,[2] or 268 per cent.
Miscellaneous general costs, from $1,423,604 [2] to $2,029,251,[3] or 43 per cent.

Current Expenses of Public Education Analyzed. — The Inquiry has developed and tested extensively a simple but very useful formula for allocating to different parts of the school system their proper shares of current operating expense. This formula requires for calculation only the items of total current expense, and the total and subtotals of teachers' salaries corresponding to the parts indicated.[4]

By means of this formula current expenses per pupil in average daily attendance were calculated for various groups of school communities for different years. Such calculations covered elementary schools, high schools, and kindergartens as well as subject and grade costs within the elementary schools and subject costs within the high schools. The new methods of classification and calculation devised for this purpose could be advantageously applied in many other states.

The formula could not be applied to costs of evening schools, which were figured on a per-pupil clock-hour basis with teachers' salaries only, and of

[1] See note 1, p. 136.
[2] Table 5.
[3] The amount in actual dollars spent was much larger in this than in either the preceding or succeeding year, because of unusual plant expenditures.
[4] P. 42.

teacher training and higher education, which could be computed only on a yearly basis.

Practically all the items of current expenses are of such a nature that brief summarization is impossible. Details are given in Chapter IV. It is, however, worth noting here that in all communities and elementary school grades, the time or money devoted to the so-called fundamentals — English, arithmetic, and the social studies — is usually two-thirds or more of the total.[1] The cost of teachers and supervisors of special subjects in the grades is almost negligible in the cost of a child's education for the whole elementary school period.[2]

Teachers' Salaries.[3] — Teachers' salaries in the state for certain kinds of positions in certain types of communities, and for the larger cities are on the whole above typical salaries for such work in the entire country. But teachers' salaries in the state are in general distinctly below what might be expected of the State of New York's resources. The available facts indicate that the public school teachers outside the largest cities are not so well paid as they are in a number of other states with which New York is usually compared.

Plant Costs of Public Education. — The cash disbursements for capital outlay (sites, buildings, and equipment) for all public education increased in actual dollars spent from $7,923,152[4] in 1910 to $20,786,138[4] in 1921, or 162 per cent. Nearly all of this was for elementary and high schools, the amount for these increasing from $7,130,568[4] in 1910 to $20,652,914[4] in 1921, or 190 per cent.

The capital outlays for normal schools and colleges, and for general state administration, are extremely variable, going up or down irregularly. The only feasible summary of these capital outlays is to state that for the twelve years from 1910 to 1921, the amount of capital outlay in dollars spent for normal schools and colleges was $3,726,005,[4] or an average of $310,500 per year. The similar total for general state administration was $3,990,829, but most of this was in connection with the Education Building at Albany and $3,714,142, or 93 per cent of it, occurred in the four years 1910 to 1913.[4]

Much of the school plant now in service is very old and distinctly below the standards of construction considered satisfactory, as is shown by the statistics given in Chapter V of the ages of buildings and types of construction.

Present and Probable Future Cost of All Education in the State. — In 1921, the aggregate accrued economic cost of all education in the state was as follows :[5]

[1] P. 56. [2] Table 16. [3] P. 73.
[4] Table 26. [5] P. 116.

The public school system including tax-supported higher education	$167,752,459
Private and parochial elementary and secondary schools	28,161,910
Non-tax-supported institutions of higher education	23,821,345
Total	$219,735,714

This total may be otherwise analyzed as follows:

Current expenses	$193,056,250
Interest (including imputed)	18,500,506
Depreciation	8,178,958
Total	$219,735,714

If certain commonly accepted standards were to be made to prevail throughout the state, and if certain legal requirements were to be fully enforced, there would be an additional annual cost of at least $21,637,067 [1] to be met by taxation.

Estimates prepared on the basis set forth on pages 120–123 indicate that the costs in 1925 and 1930 will amount to at least the following sums:

	1925	1930
Cash disbursements for public education	$207,400,000	$226,400,000
Total annual accrued economic cost for all schools in the state, whether tax-supported or not	251,656,000	270,656,000
Total annual accrued economic cost for all schools in the state, if certain legal requirements and certain standards are observed	273,293,000	292,293,000

Sums Raised for Public Education, Classified by Sources. — In 1921 the following sums were raised for public education:

State Sources	
From taxation	
For subventions	$33 116,103 [2, 3]
For expenditures made directly by state	6,016,204 [2]
Total	$39,132,307
From income on permanent fund (for subventions)	382,403 [3]
Total from state sources	$39,514,710 [4]
Federal Sources	
From grants of federal government	$672,158 [2]
Local Sources	
From local taxation	$118,325,781 [4, 3]
From miscellaneous sources	777,209 [3]
From borrowing and bond sales	22,937,283 [5]
Total including borrowing and bond sales	$142,040,273
All Sources	
Total exclusive of borrowing and bond sales	$159,289,858 [4]
Total including borrowing and bond sales	$182,227,141

In the twelve years from 1910 to 1921 inclusive, the total revenues applied to public education from all sources except borrowing, were $1,024,339,286,[3]

[1] P. 120. [2] Table 38. [3] Table 39. [4] Table 35.
[5] From unpublished data of Headquarters Staff.

which was $76,815,926 more than the cash disbursements, amounting to $947,523,360,[1] for all purposes except for new buildings, equipment, and sites. In this period the cash disbursements for new buildings, equipment, and sites were $123,908,274,[2] which was $73,718,945 more than the increase, amounting to $50,189,329,[3] in bonded indebtedness.

State Subventions to Localities. — About three-fourths of the money required to support local schools in the state is raised by local taxation.[4] The remainder is paid by the state to the local governments in the form of subventions out of state revenues.[5] The trend is clearly toward increased state and national support. Thus while local support has increased about two and one-half times, state support has increased five times, and federal support, ten times. In 1910 local political divisions supplied 86 per cent of the support; in 1922 they supplied only 77 per cent.[6] However, even with its tenfold increase in twelve years, the federal share now is less than one-half of one per cent of the total support of public education in the state.

The increases were made from time to time in the state subventions because of various facts and conditions. As a result, the aggregate state aid received by a locality is not fixed according to any rule based on a single well-defined principle. Instead, thirteen different standards are used. Of these standards, those affecting teachers in general determine the distribution of 91 per cent of the state subventions and those affecting special kinds of teachers determine about 4 per cent.[7]

Almost all the state aid is distributed primarily on a per-teacher quota basis which varies with the classification of the school district, and in the case of one of the quotas, with the assessed property valuation in the district. Approximately one-half of this state aid is entirely unaffected by the richness of the local resources back of the teacher, and the portion which is so affected is allocated in a manner which favors both the very rich and the very poor localities at the expense of those moderately well off.[8]

The foregoing statement is the conclusion from a study of the full value of real estate per child of school age in various districts, the only measure of wealth available for comparing districts.[9] But the unsatisfactory nature of the present state-aid provisions in this respect would continue even if the county were made the unit of administration and support of schools, no matter whether wealth be estimated by full value of real estate, taxable income, or any index combining the two on any reasonable basis.[10]

The present forces in the state are tending toward the equivalent of a state educational system supported by taxes of uniform weight throughout the state. This is the logical conclusion of the widely accepted principle of "equality of educational opportunity."[11]

[1] Tables 1 and 2. [2] Table 2. [3] Table 40. [4] Table 41. [5] Table 38. [6] Table 35.
[7] Table 37. [8] Pp. 162–166. [9] Table 46. [10] Table 49. [11] P. 173.

Bonded Debt. — The total gross outstanding indebtedness for public schools in the state increased from $135,981,844 in 1910 to $221,835,687 in 1922.[1] This is an increase of 63 per cent as compared with a 229 per cent increase in cash disbursements,[2] or a 235 per cent increase in current expenses [3] for the same period. Of this total indebtedness about two-thirds was incurred by the City of New York, but its share has declined from about 87 per cent in 1910 to about 69 per cent in 1922.[4]

In 1920 the school bonded debt was 56 per cent of the value of school sites and buildings, or 35 per cent, if cash balances are subtracted.[5]

The school bonded debt varies from 1.4 per cent of the full value of real estate in the City of New York to 1.1 per cent in other cities, .5 per cent in villages and towns, and nothing in rural areas.[6]

The school bonded debt varies from 8 per cent of total debt for all purposes in the City of New York to 1.8 per cent in other cities and 27.8 per cent in villages and towns.[7]

The City of New York is more heavily bonded for school purposes than any other city [8] although there has been a relative decline in the last twelve years because of little school building in that city.[9] The village and rural districts have utilized their credit relatively little in financing their building operations.[10]

In the last twelve years, for the state as a whole, half the plant construction costs have been paid from current receipts.[11]

Taxation in 1921. — The aggregate federal taxes levied in 1921 in the United States amounted to $4,902,925,000,[12] being $45.79 per capita of population.

Federal taxes paid by the people of the State of New York in 1921 amounted to $979,210,729,[13] or $93.15 per capita of the people of the state.

New York State taxes amounted to $139,724,079;[14] local taxes in the state to $385,050,572;[15] and the total state and local taxes to $524,774,651, or $49.92 per capita of the people of the state.

The aggregate of all federal, state, and local taxes paid by the people of the state amounted to $1,503,985,380, or $143.07 per capita of the people of the state.

Of the aggregate state and local taxes in the State of New York, $382,043,443, or 72.8 per cent, were direct taxes on real estate. The estimated full value of real estate in the state amounted to $16,395,679,190,[16] and the taxes on real estate amounted to 2.3 per cent of its full value.

[1] Table 40. [2] Table 4. [3] Table 1. [4] P. 105. [5] P. 189. [6] Tables 53, 55.
[7] Table 53. [8] P. 189. [9] P. 105. [10] P. 189. [11] P. 106.
[12] Report United States Secretary of the Treasury.
[13] Estimated as follows: Income and excess profits taxes on basis of collections in the state; all other taxes estimated by assigning to New York that proportion of the other federal taxes which New York's population bears to the total population of the United States.
[14] State Comptroller's Report.
[15] State Tax Commission's Report.
[16] State Tax Commission's Report, 1921, page 60.

The aggregate of the individual incomes of the people of the state, as estimated by the National Bureau of Economic Research, was, at its 1919 ratio of New York to total income of the country, $7,500,000,000.

The aggregate of the taxable incomes of the people of the state for 1921, as shown by the state income tax returns, was $3,215,905,958.[1]

The aggregate of the federal, state, and local taxes paid by the people of the state (as shown above) amounted to 20.1 per cent of the aggregate incomes of the people for 1921, as estimated by the National Bureau of Economic Research, and to 46.8 per cent of their aggregate reported taxable incomes for 1921.

Revenue System.[2] — Of each $100 spent for public education in the state (disregarding borrowings), $99 are raised by taxation. The 100th dollar is supplied by income from permanent state school funds, tuition, fees, and the like.

The state does not earmark certain taxes for state revenues for education, but pays its subventions out of whatever revenues it has.

The revenue system consists of nine major taxes which with their names and proportionate yields for 1922 may be tabulated as follows:[3]

Name of Tax	Per Cent of Total State and Local Revenue for All Purposes Derived	Per Cent of State Revenue for All Purposes Derived
1. Property taxes	77	20
2. Personal income taxes	5	13
3. Business taxes	11	40
(*a*) Business corporation income tax	—	—
(*b*) Bank stock tax	—	—
(*c*) Stock transfer tax	—	—
(*d*) Miscellaneous business taxes .	—	—
4. Miscellaneous taxes	7	27
(*a*) Motor vehicle tax	—	—
(*b*) Inheritance tax	—	—
(*c*) Mortgage record tax	—	—
(*d*) Excise, insurance premium tax, boxing exhibition, and motion-picture taxes	—	—
	100	100

The *property taxes* are levied on real estate and certain kinds of personal property. The general property tax is now 98 per cent a real estate tax and 94 per cent a local tax. The state's part in this is very elastic, varying from nothing in 1910, 1914, 1916 to 31½ millions in 1922. The general property tax is a variable and diminishing source of state revenue but a constant and increasing source of local revenue and of school support. The control

[1] State Tax Commission figures not yet published.

[2] The statements and data for this section are derived from Chapter VII.

[3] Calculated from the data of Diagram 6.

of the amount of school tax to be levied in most sections rests with the local board of education (in a few cities, with the city government) or, beyond certain limits, with the electorate. Most of the local boards are popularly elected.

The *personal income tax* applies to the total net income of residents of the state and to certain types of income arising within the state for non-residents. The yield is equally divided between the state and the counties on ratio of assessed valuation of real estate in the county to the similar figure for the entire state. The definition of income is much like that of the Federal Revenue act.

Of the *business taxes*, the receipts of the business corporation income tax are divided on the basis of two-thirds to the state and one-third to the localities where the tangible property is located; the receipts of the bank stock tax are divided so that those from state and national banks go to the localities and those from other banking institutions go to the state; the receipts of the stock transfer tax go to the state; the miscellaneous business taxes go to the state.

Of the *miscellaneous taxes*, the receipts of the motor vehicle tax are divided in the proportions of three-fourths for the state and one-fourth of the collections from the residents of a county to that county; the inheritance tax goes to the state; the mortgage recording tax is split half and half between the state and the localities; the proceeds of the excise, insurance premium tax, boxing exhibition and motion-picture taxes go to the state; other miscellaneous taxes, consisting of special assessments for local improvements, miscellaneous licenses, fees, and the like, go to the localities.

New York is one of the few states which has faced its fiscal problem squarely and taken steps to put its system of taxation into harmony with the changed conditions which have come about in the last few decades. As a result, its system is neither so bad as to operate as a serious limitation in the present school-finance problem, nor yet so good but that certain important changes are not desirable. Suggestions by close students of taxation for such changes will be found in the summaries of the Report of the Joint Legislative Committee on Taxation and Retrenchment, and of the " Model Plan " prepared by the Committee of the National Tax Association, given on pages 158–160.

Economic Resources of the State Compared with Educational Expenditures. — From 1910 to 1922, the expenditures for public education per child of school age increased nearly five times as rapidly as real estate values and more than twice as rapidly as the income of the people of the state.[1] This increased cost of education was not for identical service. Instead, it represents an expanded program with many more children attracted to and held in the upper grades, and, proportionate to population, over 60 per cent

[1] Table 43.

more in the high schools alone.[1] In both of these divisions the cost per pupil is much higher than in the lower grades.[2] Making allowance for the changing value of the dollar on the assumption that dollars of school expenditures varied in value in an identical manner with the retail price index presented in the text,[3] the cost of providing one day's schooling for each child in the public elementary and high schools combined increased only 37 per cent from 1910 to 1922.[3, 4]

The Economic Limitations of Educational Expenditures. — On this topic Chapter X discusses two fundamental propositions:

First, that education is necessary not only to the economic welfare of a community, but to its very existence.[5]

Second, that to increase the support of public education means fundamentally that the aggregate economic resources of the community must be increased, or that support must be diverted to education from some other object to which it is now devoted; and that diversion always involves abstinence from objects formerly consumed, and, often, because of the specialized character of economic resources, involves a degree of waste.[6]

On the purely practical side, the increase of educational support and the diversion to it of revenues now used for other purposes depend upon possible or probable changes in the proportions of total taxes and of all income of the people, devoted to education and to other governmental needs. Upon such changes the following facts throw light:

From 1910 to 1920 state and local taxes for education only doubled, while total taxes for all purposes about quadrupled. The federal, state, and local taxes in the State of New York for all purposes were in 1920 over twelve, three, and one and two-thirds times respectively what they were in 1910.[7]

The percentages of total taxes levied by federal, state, and local governments in the State of New York, and the percentage of the amount raised by each devoted to educational purposes varied considerably from 1910 to 1920. The variations may be easily shown by means of the popular device of the " tax dollar " or dollar of total taxes for all purposes, which for 1910 and 1920 was disposed to the nearest cent as follows:[7]

	1910 Tax Dollar		1920 Tax Dollar	
	Education	All Purposes	Education	All Purposes
Federal Taxes	——	$.19	[8]	$.60
State Taxes	$.02	.11	$.01	.09
Local Taxes	.15	.70	.08	.31
Total	$.17	**$1.00**	$.09	**$1.00**

[1] Footnote, p. 138. [2] Tables 7, 8, 9, 15, and 18. [3] Footnote 1, p. 136. [4] Table *B*.
[5] Pp. 141–144. [6] Pp. 146–155. [7] Table 44. [8] Less than ½ cent.

Of the total state and local net expenditures (cash disbursements), for all governmental purposes, education received 16 per cent in 1910 and 19.3 per cent in 1920. But expenditures for charities and corrections and for health and sanitation increased much faster.[1]

In 1920, 13.49 per cent of the estimated income of the people of the State of New York was taken to finance activities collectively administered under government control. Taxes for education required about one-ninth of this, or 1.25 per cent of such estimated income.[2]

Problems of Organization and Administration. — The work of the Inquiry indicates that the major problems of organization and administration in the State of New York, as far as the financing of public education is concerned, are as follows:

1. The attainment of larger units of school administration and support.[3]
2. The establishment of better budgetary procedure [10] and accounting [4] for school systems.
3. The establishment of better methods of financing plant outlays.[5]
4. Better provision for fire prevention, and for insurance of school buildings.[6]
5. Codification of the education law.[7]
6. Determination of the relative advantages of fiscally independent and fiscally dependent school boards.[8]

A study covering the entire country [8] shows conclusively that the separate financing of municipal school systems must be considered on other ground than that of the cost to the community since the costs of schools administered under the dependent and independent organizations are approximately equal.[9]

Data for Purposes of Comparison. — Tables *A* and *B* give various statistical comparisons for fiscal data on schools for the years 1910, 1915, 1920, and 1922.

Table *A* presents the original figures in actual dollars. Table *B* shows more accurately the comparisons between the figures for the different years by giving the percentage relationships to 1910 as a base. Diagram *A* gives graphically the main features of Table *B*. In the preparation of this diagram, fluctuations between the specified years were disregarded and, therefore, straight lines were drawn from each year to the succeeding one.

[1] Table 45. [2] P. 151. [3] See Chapter XII. [4] P. 187.
[5] P. 188. [6] P. 190. [7] P. 191.
[8] The full account of this study, entitled "The Fiscal Administration of City School Systems," will appear as Volume V of the publications of the Educational Finance Inquiry.
[9] P. 183.
[10] P. 184.

TABLE *A*

AMOUNTS OF VARIOUS ITEMS — STATE OF NEW YORK, 1910, 1915, 1920, AND 1922

EXPRESSED IN ACTUAL DOLLARS

For Years Ending June 30

	1910	1915	1920	1922
1. Estimated aggregate money income of the people in billions (page 132) . . .	$3.9	$4.5	$9.1	$7.5 [4]
1 *a*. Same per capita of population in dollars	**$428**	**$462**	**$876**	**$705** [4]
2. Full value of taxable real estate in billions (page 132)	$10.8	$12.9	$14.7	$17.3
2 *a*. Same per capita of population in dollars	**$1185**	**$1323**	**$1415**	**$1626**
3. Rate of tax per thousand on full value of real estate [6] .	$17.23 [1]	$17.08	$21.74	$25.60 [2]
4. Aggregate state and local taxes all purposes in thousands [3]	$262,941	$275,473	$487,730	$563,389
4 *a*. Same per capita of population in dollars	**$28.85**	**$28.26**	**$46.96**	**$52.95**
5. Aggregate total federal, state, and local taxes in thousands [3]	$323,986	$349,512	$1,227,301	
5 *a*. Same per capita of population in dollars	**$35.55**	**$35.85**	**$118.18**	
6. Aggregate cash expenditures for tax-supported education in thousands (page 38)	$59,626	$84,842	$117,344	$196,034
6 *a*. Same per capita of population in dollars	**$6.54**	**$8.70**	**$11.30**	**$18.43**
6 *b*. Same for furnishing one day's schooling for one child, elementary and high schools combined, in dollars [5].	**$.27**	**$.33**	**$.43**	**$.66**

[1] 1911. [2] 1921. [3] Table 44. [4] Calendar year 1921.

[5] Computed from cash-disbursement figures of Table 5, and aggregate days of attendance from reports of the United States Bureau of Education.

[6] "Report of Special Joint Committee on Taxation and Retrenchment, March 1, 1922," p. 49.

TABLE *B*.

PERCENTAGE RELATIONSHIPS OF VARIOUS ITEMS — STATE OF NEW YORK — EXPRESSED IN ACTUAL DOLLARS, TO 1910 AS A BASE

COMPUTED FROM THE DATA OF TABLE *A*

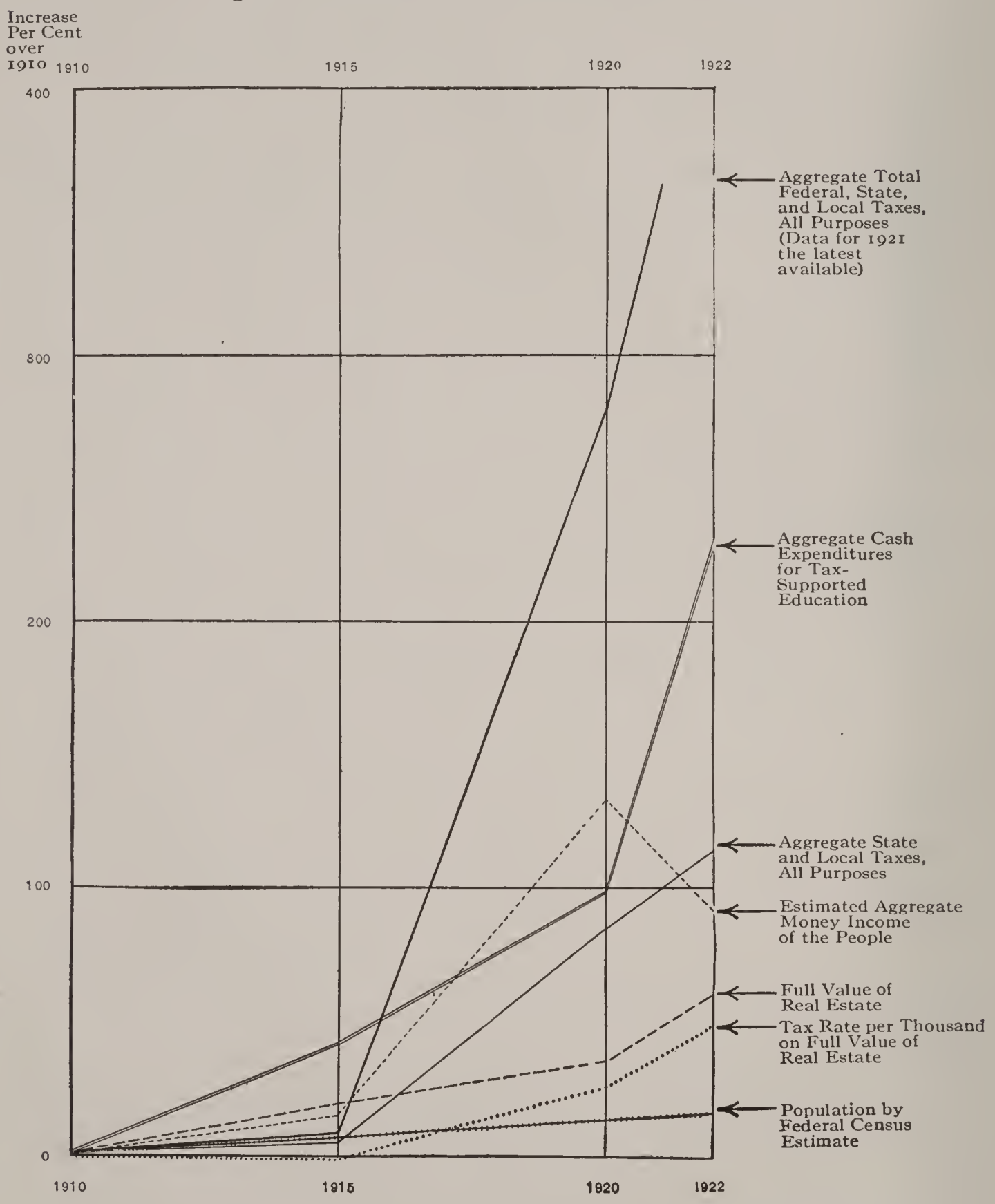
	1910	1915	1920	1922
1. Estimated aggregate money income of the people in billions	100	115	233	192 [3]
1 *a*. Same per capita of population in dollars	**100**	**108**	**205**	**165** [3]
2. Full value of taxable real estate in billions	100	119	136	160
2 *a*. Same per capita of population in dollars	**100**	**112**	**119**	**137**
3. Rate of tax per thousand on full value of real estate	100 [1]	99	126	149 [2]
4. Aggregate state and local taxes all purposes in thousands	100	105	185	214
4 *a*. Same per capita of population in dollars	**100**	**98**	**163**	**184**
5. Aggregate total federal, state, and local taxes in thousands	100	108	379	
5 *a*. Same per capita of population in dollars	**100**	**101**	**332**	
6. Aggregate cash expenditures for tax-supported education in thousands	100	142	197	329
6 *a*. Same per capita of population in dollars	**100**	**133**	**173**	**282**
6 *b*. Same for furnishing one day's schooling for one child, elementary and high schools combined, in dollars	**100**	**122**	**159**	**244**
7. Population (Federal Census Estimate)	100	107	114	117

[1] 1911. [2] 1921. [3] Calendar year 1921.

DIAGRAM *A*

PERCENTAGE INCREASE IN THE COST OF TAX-SUPPORTED EDUCATION RELATED TO PERCENTAGE INCREASE IN POPULATION, TAXES, MONEY INCOME, AND REAL ESTATE VALUES — STATE OF NEW YORK, 1910–1922

Figured on 1910 as a Base from Data in Table *B*



PART ONE

THE FINANCIAL PROBLEM OF EDUCATION IN THE STATE OF NEW YORK

CHAPTER I

INTRODUCTION

THE purpose of the Educational Finance Inquiry was defined in a memorandum submitted to the executive officers of the several Foundations which contributed to the support of the undertaking, as follows:

"It is proposed that an Educational Finance Inquiry be organized for the purpose of making, in selected, typical communities and states, an intensive study of present expenditures for the several grades and institutions of public education, and the relationships of such expenditures to the expenditures for other public purposes and to economic resources, as a basis for discovering the extent to which the free educational system of the country can be maintained and developed by the more complete and economical utilization of both present and potential sources of public revenue — local, state, and national."

The Commission was not appointed to investigate the quality of the education now furnished by the schools, or the character and extent of the education which should be furnished at public expense. The Commission was appointed to investigate only that part of the entire educational problem which relates to the cost of present-day education, and to the cost of carrying out fully the program which now generally prevails.

The Commission conceived the undertaking to involve the assembling of a body of facts and the reasonable interpretation of them. The Inquiry in itself is separate and distinct from any specific practical program of accomplishment which may grow out of its results. The purpose is essentially the gathering of evidence, upon the basis of which more intelligent economic judgments may be formed with respect to the financing of the public school system.

The program of work of the Commission, as stated in the memorandum already referred to, contemplated first of all an intensive study of a single state. It was believed that this procedure would limit the work of the Inquiry to an area from which tangible conclusions could be secured within a reasonable time, and that it would be possible to complete such a study within the limit of the funds made available. It was felt, as well, that such an intensive study would help to perfect a technique applicable to other states and communities.

This report attempts to analyze the financial problem of education in the State of New York. It is an attempt to supply not a solution of the problem, but an analysis which should prove a substantial contribution towards a solution. The aim throughout has been to state fully all of the important pertinent facts, without attempting to draw conclusions as to the course of action which they seem to imply. No attempt is made to pass judgment on questions of educational policy, and every effort has been made to restrain comment on the facts to that minimum which will explain their limitations and prevent their misinterpretation.

The report is divided into two parts. Part I is devoted to a statement of (1) the educational program of the State of New York; (2) the aggregate costs of public education; (3) the current expenses of public education analyzed by grades and subjects; (4) an analysis of the sources of revenue; (5) current problems of fiscal administration; (6) the total economic cost to the citizens of the State of New York of the maintenance of tax-supported schools.

The statement of the plan of the Educational Finance Inquiry, prepared at the time of its original organization, makes it clear, however, that the functions of the Commission are not completely discharged when it has prepared an exhibit setting forth these facts. The Commission was established to make not only "an intensive study of present expenditures for the several grades and institutions of public education," but also to study "the relationships of such expenditures to the expenditures for other public purposes and to economic resources, as a basis for discovering the extent to which the free educational system of the country can be maintained and developed by the more complete and economical utilization of both present and potential sources of revenue — local, state, and national."

In Part II is an attempt to explain what the financial problem formulated in Part I really means, when examined in relation to its background of economic and fiscal resources, and the governmental organization and administration.

It is not possible in this general report to include in detail the original data upon which calculations are based. An attempt has been made, through the presentation of summary tables, to indicate not merely the total cost of the public school system and of its several parts, but to indicate, as well, the variation which occurs among the many administrative units within the state. Wherever the technique employed is new or unusual a brief statement of methods has been given.

Throughout the report the analysis of school expenditures is in terms of the divisions of the school system and subjects taught. While it would be interesting to know just what percentages of the total cost are devoted to general control, instructional service, operation, maintenance, fixed charges, debt service, capital outlay, and auxiliary agencies, such a functional

analysis was not possible upon the basis of the accounts kept in the 11,224 [1] school districts in the State of New York. It is to be noted that the item "teachers' salaries" is used throughout the study as a basic figure in the determination of costs. The report does not, however, attempt to report fully upon teachers' salaries. Comprehensive studies in this field have been made in recent years on a nation-wide basis by committees of the National Education Association which make it possible to compare salaries in the State of New York with those in other parts of the country.[2] For this reason, it did not seem wise to spend the resources of the Inquiry on a teacher-salary study.

In order to provide more detailed information for students of educational finance, and for those who would check the findings of the general report, there will be issued, as supplementary to this document, special reports on (1) the cost of elementary education; (2) the cost of secondary education; (3) separate financing of municipal school systems. An annotated bibliography on educational finance and a nation-wide study of school expenditures will be issued shortly after the publication of this report. It may be that one or two other special studies will be added to this list before the work of the Commission is completed.

Studies similar in character to that undertaken in the State of New York are under way for California, Illinois, and Iowa. The reports of these studies will, it is hoped, be published shortly. A special investigation of the unit cost of higher education is also in the course of preparation.

In all tables giving data in dollars over a considerable number of years, the reader must guard against a false impression from not taking into account the fluctuating value of the dollar. The figures for this fluctuating value are given in note 1 on page 136.

[1] In 1919–1920. See footnote 3, p. 162.

[2] "Teachers' Salaries and Salary Schedules in the United States, 1918–19." Prepared for the Commission on the Emergency in Education of the National Education Association by E. S. Evenden. Published 1919.

"Teachers' Salaries and Salary Trends in 1923." Report of the Salary Committee of the National Education Association, E. S. Evenden, Chairman. Published July, 1923.

CHAPTER II

THE EDUCATIONAL PROGRAM OF THE STATE OF NEW YORK

The educational system of the State of New York is essentially a public system. From the beginning the underlying theories of state responsibility and state authority have been developed in statute law and have been upheld by judicial authority. The constitution of the state obligates the legislature to provide for the maintenance and the support of a system of free common schools wherein all the children of the state may be educated. In consequence of this there has been developed a more or less completely organized educational system, supported from the public treasury and extending from the kindergarten through elementary and secondary schools. This system further includes a variety of schools for special purposes and special classes, institutions for the training of teachers and for certain kinds of higher and professional education. Since 1784 the oversight of secondary and higher education has been vested in a board of regents. In 1812 the common school system was organized and the office of superintendent of common schools created. Since 1867 the State of New York has maintained a system of free public education. The Board of Regents has from the beginning had general oversight over both the tax-supported schools and the non-tax-supported educational agencies organized for secondary and higher education within the State of New York. Since 1904 the board has had general supervisory powers over all educational activities of the state.

In the year 1920 the total population of the state was 10,385,227. Of this total, half was in the City of New York, with its population of 5,620,048. Approximately 83 per cent of the people lived in places having more than 2,500 population, while over 1,750,000 lived in smaller villages and in the rural areas of the state. The inquiry concerning the financing of education in the State of New York includes, therefore, approximately one-eleventh of the population of the United States and involves the problems of all kinds of communities from the largest city to the strictly rural area.[1]

[1] There are in the State of New York 3 cities of the first class (over 175,000 population); 7 cities of the second class (50,000 to 175,000 population); 49 cities of the third class (below 50,000 population); 58 villages having more than 4,500 population; 414 union free school districts maintaining four-year high schools; 117 union free school districts maintaining three-year high schools; 31 union free school districts maintaining two-year high schools; 53 union free school districts maintaining one-year high schools. There are in addition to these school districts 9,644 rural school districts not maintaining high schools. In every case, the report includes data — in so far as comparable figures could be secured — for all of the city and village school districts. For the rural school districts, an attempt was made to secure data from the first numbered district in each of the supervisory districts. This gave data from a random selection of approximately 1,000 of the rural school districts. (All figures for 1920–1921.)

The State of New York provides at public expense elementary and secondary education, schools for groups needing special opportunities, training schools for teachers, and in part institutions of higher education. The law of the state makes separate provision for the education of those under and those over sixteen years of age. The division at this age level is, however, not hard and fast in all phases of education. Moreover, the law provides for a sharp differentiation in the compulsory educational program as between districts of over 4,500 population employing their own superintendents and the smaller communities. The program as determined by law is shown graphically in Diagram 1.

This diagram is explained and supplemented by the discussion of the various phases of the educational program given below.

Compulsory Education. — Attendance is compulsory during all of the time schools are in session (minimum 180 days each year) for all children from seven to sixteen in communities of 4,500 or over which employ a superintendent of schools, unless such children over fourteen years of age are legally at work. In places under this size, the beginning age is eight instead of seven. In districts having 5,000 population or more, part-time continuation schools are provided for legally employed children, and for others not in attendance upon regular instruction in day schools, between fourteen and eighteen years of age. Full provision for such continuation schools is not required by law until September, 1925. Evening schools offering the common school branches and additional subjects adapted to the needs of students applying for instruction are required for persons over sixteen years of age.

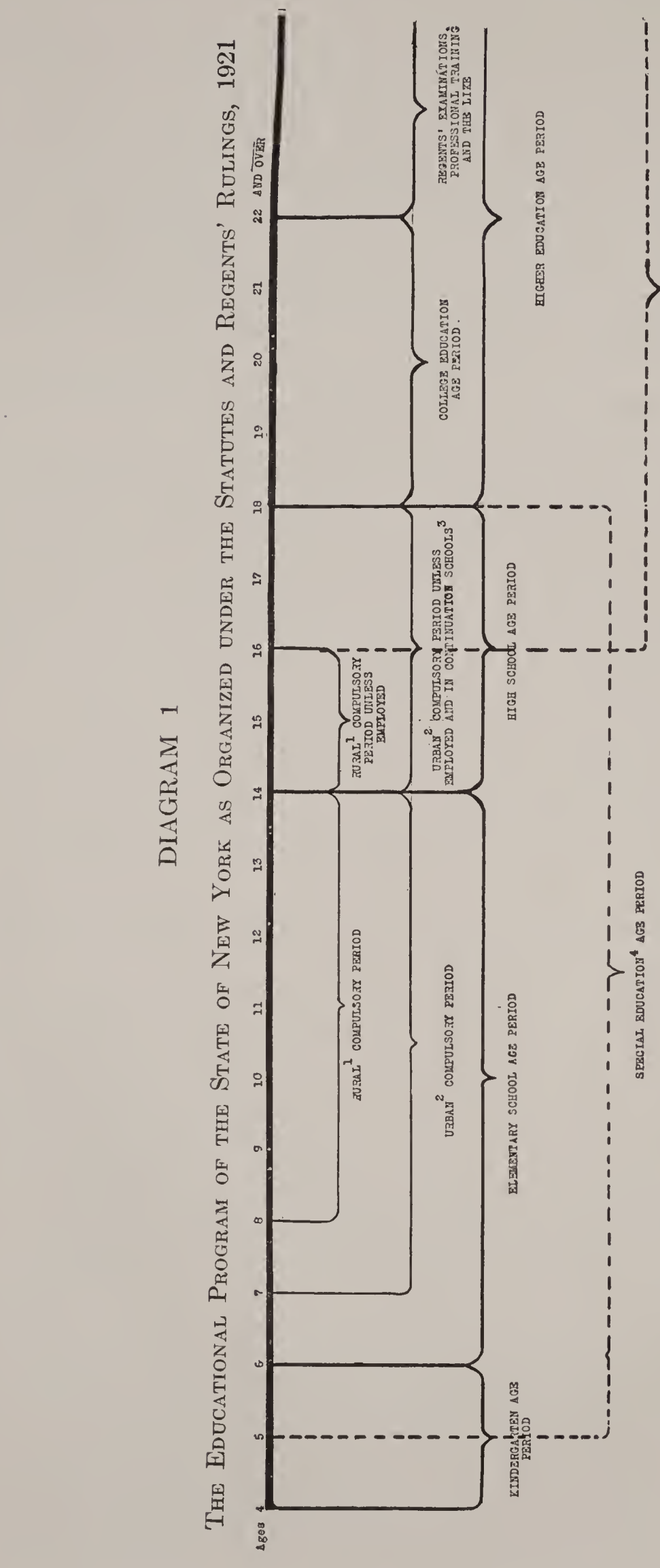
Kindergarten Education may be provided by local communities for children between the ages of four and six years.

Secondary Education. — The age-limit requirements of the law indicate that the State of New York contemplates the education of children at public expense through the secondary school age, in high schools, or in continuation schools. Evidence that secondary education is an integral part of the state's program is found in the fact that where pupils live in districts without high schools the state provides for their admission to the high schools of neighboring districts, and makes a payment of $50 for each pupil so admitted. The state maintains five schools of agriculture, one of agriculture and domestic science, and a nautical school, all of secondary grade.

Higher Education and Teacher Training. — The State of New York does not provide free higher education for all who apply for it, as most other states do through their state universities and colleges. It does provide state colleges in certain practical arts, and state scholarships for college education. Moreover the City of New York supports two city colleges and a number of cities have their own training schools for teachers.

DIAGRAM 1

THE EDUCATIONAL PROGRAM OF THE STATE OF NEW YORK AS ORGANIZED UNDER THE STATUTES AND REGENTS' RULINGS, 1921



ENROLMENT 1920*—TO NEAREST HUNDRED

	KINDERGARTEN			ELEMENTARY			SECONDARY[9]			EVENING, CONTINUATION, AND SPECIAL SCHOOLS	HIGHER EDUCATION
	Non-Tax-Supported	Public	Total	Non-Tax-Supported	Public	Total	Non-Tax-Supported	Public	Total		
City of New York...	Not known[6]	65,000	Not known		773,500			98,200		109,100	
Remainder of State .		37,800			709,200			105,100		49,200	
State Total		102,900		264,800[7]	1,482,700	1,747,500[8]	69,400	203,300	272,700[8]	158,300	66,000[10]

GRAND TOTAL ENROLMENT

All Schools of the State, 1919–20
Excluding Known Duplicates
2,283,800

Notes:

[1] Rural = districts under 4500.
[2] Urban = districts over 4500.
[3] Applies only to districts of at least 5000, and is not fully in force until 1925.
[4] For blind, deaf, crippled, and otherwise defective children.
[5] These schools give work of all grades as needed.
[6] Included in non-tax-supported elementary schools.
[7] Includes kindergarten enrolments.
[8] Includes 62,400 duplicates, no separate data showing the number of elementary and secondary pupils having been compiled.
[9] Includes only regular day high schools and academies.
[10] Includes 7370 in state normals and 1874 in city training schools.
* See footnote 1 on page 26.

The state's program is based on the assumption that most of its higher education will be carried on at private expense, under control exercised by the State Department of Education, through its examinations for the professions and its power to issue and revoke the charters of degree-granting institutions.

However, the state supports a college of agriculture and veterinary medicine in Cornell University, a college of forestry in Syracuse University, a college of ceramics in Alfred University, and a library school in connection with the State Library at Albany. The City of New York, under permissive legislation, maintains the College of the City of New York, an institution of collegiate grade for men, and Hunter College, an institution of similar grade for women. These two institutions in the City of New York, while comparable with the collegiate departments of the best state universities, do not make the full provision for graduate and professional work which is usual in state universities.

The state also provides certain scholarships for higher education which, although substantial, do not involve public support of higher education to the same extent as in most other states. Seven hundred and fifty scholarships of an annual value of $100 each are awarded each year, valid for a period of four years, to residents of the State of New York taking college courses within the state. Thus at any one time, about three thousand students are aided by these scholarships. Not more than twenty of them may be awarded to the residents of any single assembly district. Originally the scholarships were adequate to cover tuition, but now they provide only about one-half of the tuition commonly charged. Cornell University, by its charter, is required to grant free tuition to one student from each assembly district, making a total of 150 such students. For the special benefit of soldiers, sailors, marines, and trained nurses, 450 scholarships were established in the year 1919 [1] at various schools to the value of $200 per year. Preference is given to those who are prepared for college, and up to 1922 no one with less than this preparation has been appointed. The State of New York may, therefore, be said to encourage certain qualified students to continue their courses in college or university, rather than to make general provision for free higher education.

As a part of its program of higher education, the State of New York provides for the training of teachers. There are ten state normal schools, which in 1920 required for graduation a two-year professional course based on a four-year high school course. This course was lengthened to three years in 1922, providing training for elementary and junior high school teachers and teachers of special subjects. In addition to these state schools, the City of New York maintains three schools for training its elementary

[1] The year for which the facts are reported will in every case be designated by the year in which the school year closes. For example, the year 1918–1919 will be designated as the year 1919.

teachers, and in 1920 nine other cities had similar schools. A state teachers' college for the training of high school teachers is maintained at Albany. This school offers a four-year professional course beyond high school graduation. In 1920 there were fifty-seven teacher-training classes for preparing rural teachers, established in high schools and subsidized by the state.

Special Education. — Districts must maintain special classes for blind, deaf, crippled, or otherwise physically-handicapped children, or for children mentally retarded three or more years, whenever there are ten or more of any class in the district. If there are less than ten in any one group, the district may contract with another district for this special education. The state makes provision for educating blind children and deaf mutes in state schools or in private institutions at state expense.[1] A blind or deaf citizen of the state in actual attendance at a higher institution in the state, other than one for the blind or deaf, may, if worthy, be allowed $300 for a reader or assistant. The State Department of Education is required by law to arrange for such therapeutic treatment as may be necessary for the rehabilitation of physically-handicapped persons who have registered with the Department of Education. It is also required to provide maintenance cost, during the period of actual training, for physically-handicapped persons registered for rehabilitation, such maintenance costs not to exceed $10 per week for a period not to exceed twenty weeks.[2] The state makes special provision for educating Indian children on reservations and distributes school money to orphan asylums, just as it does to districts, in proportion to the number of children to be educated.

Illiteracy and Americanization Work. — Various districts are encouraged to give special work for illiterates and non-English-speaking persons of sixteen years or over, under state supervision, and with teachers especially trained for the purpose. State aid is given for half the teacher's salary up to $1,000.

Local Adjustments. — Certain communities have the right to establish schools peculiarly adapted to their special needs. Two or more adjoining school districts may provide for the formation of a consolidated high school. When authorized by the voters of the area involved, city and union free school districts may establish general industrial, unit-trade, technical-agricultural, mechanic arts and home-making, practical arts, and evening vocational schools. The board of supervisors in each county outside of the City of New York may, without a vote of the people, establish a farm school for instruction in trades, industrial, agricultural, and home-making subjects for children between eight and eighteen years of age.

[1] The confused state of the education law is illustrated by the provisions governing special education. Even with the assistance of the officials in the State Department of Education it was found impossible to make a more definite statement than that which appears above with respect to the precise dividing line between state and local responsibility for special education. The need for a codification of the education law is discussed later (see p. 191).

[2] This is entirely apart from any rehabilitation work for soldiers and sailors.

In addition to the schools maintained at public expense, the citizens of the state maintain other educational institutions from funds arising from gifts and endowments, and from the payment of fees. Of the total charge against the people of the state for the maintenance of education in the year 1921 ($220,000,000) approximately one hundred sixty-eight millions ($168,000,000) was a charge against the public treasury, while the remaining fifty-two million dollars ($52,000,000) was supplied from private sources to maintain the schools, colleges, and universities which were not tax-supported.

CHAPTER III

THE TOTAL COST OF PUBLIC EDUCATION AND ITS GROWTH

This chapter deals only with the *purely public system* of education which in 1921 cost $167,752,459.[1] It restricts itself to aggregate figures. Its main objective is the development of Table 4 (page 38), which shows the total cost of public education in the state for each year from 1910 to 1922. Table 4 is the result of consolidating the figures of "aggregate current expenses" and "aggregate plant costs" which are presented and discussed in the two sections which immediately follow. To understand the precise content of the figures in Table 4 it is necessary to examine underlying data appearing in these two sections.

Aggregate Current Expenses

The annual current expenses[2] of the public educational system of the state for the past thirteen years are shown in Table 1. These figures represent the money spent for salaries, wages, fuel, supplies, etc., about three-fourths being accounted for by teachers' salaries. They include no "capital outlay," such as expenditures for land, buildings, and equipment,[3] and no "debt service," such as interest on permanent loans or provisions for amortization.[4] ***In this or any other table giving data in dollars over a considerable number of years, the reader must guard against a false impression from not taking into account the fluctuating value of the dollar.*** In this connection, see note 1 on page 136.

More than three times as much money was required to meet current expenses of the public schools of the state in 1922 as in 1910. While each year shows an increase as compared with the preceding one, there was a distinct slackening in the rate of increase in the years of 1916 and 1917 and

[1] This is the "annual accrued economic cost" (p. 38). The cash disbursements for this year were $175,480,003. The total cost figures of public education as given in this chapter do not include the costs of public libraries and the costs of public institutions for defective and delinquent children.

[2] It should be noted that the term "current expenses" in ordinary accounting usage would cover the item of "interest payments," which in this study is classified with "plant costs." The term "expense" as here used is not to be interpreted as implying that in all cases items are accounted for on the accrual basis.

[3] "Equipment" is interpreted throughout this report to include school furniture, library books, apparatus, and the like. That which is not consumed within the year during which it is purchased is called equipment, in order to distinguish equipment from supplies, supplies being defined as including all things which may be worn out or used up during any one school year.

[4] See Chapter V, p. 80.

TABLE 1 [1]

CURRENT EXPENSES [2] OF PUBLIC EDUCATION, 1910–1922

FOR YEARS ENDING JULY 31

State and Local — State of New York

1910	$47,521,058	1916 [3]	$67,548,473
1911	49,470,831	1917	68,582,162
1912	54,680,626	1918	76,258,399
1913	56,430,111	1919	84,855,429
1914	62,714,645	1920	101,395,871
1915	66,982,589	1921	148,115,510
		1922	159,195,578

City of New York Only

1910	$27,382,101
1915	37,607,162
1920	52,557,057
1921	83,855,207
1922	86,200,136

[1] Except where otherwise stated the figures upon which the tables in this chapter are based were drawn from the official annual reports of the State Department of Education, the State Comptroller, and the Comptroller of the City of New York. The figures for the most recent years were usually taken from the original records, published reports being not yet available.

[2] Includes interest on temporary debt.

[3] The state's fiscal year was changed at this time, so that certain of the state expenditures were for a nine-month rather than a twelve-month period.

a rapid acceleration during the last four years of the period. The largest single increase was in the year 1921, when new state-wide salary legislation became effective. The amount of the increase in this year was almost as great as the entire amount paid out in current expenses in 1910.

The figures at the foot of the table, representing current school expenses of the City of New York only, for selected years, show variations similar to those for the state as a whole.

As has been noted, a high percentage of the current expenses consists of salaries and wages. This fact is of significance in relation to the problem of the probable future course of expenditures. Ordinarily wages and salaries rise more slowly and fall less quickly than do other prices. This is particularly true in the public service. Moreover, in the opinion of many students of the problem, the recent advances in teachers' salaries represent merely a partial recognition of the advance in the level of prices. They contend that it would be unwise from every point of view, including the economic, to reduce the new level of teachers' salaries. Since this position is widely held, it seems unlikely that the immediate future will

bring material reductions in the aggregate current expenses of education, unless there should be so great a drop in the level of prices as to place the salary schedule radically out of balance with prices in general. When one takes into account the strong demand for expansion of the educational program and advance in educational standards, increases in current expenses seem more probable than decreases.

Aggregate Plant Costs [1]

The costs involved in supplying the physical equipment of the public school system cannot be presented so simply as could the current expenses discussed in the foregoing section. To secure an adequate conception of the situation it is desirable to approach it from at least two points of view.

A. Cash Disbursements. — The first point of view is that of the public treasury. The appropriate facts are those relating to the money which is spent each year for purchasing new sites, buildings, and equipment, and for paying interest on the funds borrowed to finance such purchases. Table 2 presents these treasury facts. It shows what the state and localities spent in actual dollars year by year for capital outlay and interest.[2]

The figures under the caption " Capital Outlay " are shown in graphic form in Diagram 2. It will be observed that the sums spent for new sites, buildings, and equipment increased from year to year at a moderate rate until 1915, when the progression was disturbed by the outbreak of the war in Europe. A tendency to restrict extensions of the school plant is plainly apparent in the figures for the years 1915 to 1920. Not until 1921 did capital outlay reach as high a level as that attained in 1914.

In the absence of an elaborate physical survey for the purpose of determining how much capital outlay is necessary in order to provide and maintain an " adequate " equipment of schoolhouses, it is not safe to draw dogmatic conclusions from Diagram 2. However, the facts make one point clear: contrary to a view sometimes expressed, the recent increase in aggregate school expenses is not due to an attempt, by inordinately large capital outlays, to make up for the setback in the normal construction program during the starved years of the war.

Thus, if the rate of increase during the period 1910–1915 can be accepted as an indication of the normal increase in capital outlay, the diagram would

[1] It should be observed that ordinary maintenance and repairs (but not depreciation) are included under current expenses.

[2] It will be noted that no figure is given representing amortization of debt by payment of bonds or payments to sinking funds. To include these figures with those given would clearly involve double counting, as it would insert a given item as a cost both when the borrowed sum is spent and when the debt is paid. The figures as given recognize the item as a cost when the money is actually spent for new sites, buildings, or equipment, regardless of whether it is obtained by loans or taxes. From the inadequate records available it is not possible to trace the history of the various loans and construct a table recognizing the items as costs when the loans are amortized. See Chapter V.

DIAGRAM 2

CASH DISBURSEMENTS FOR PUBLIC SCHOOL SITES, BUILDINGS, AND EQUIPMENT, 1910–1922

For Years Ending July 31

STATE AND LOCAL — STATE OF NEW YORK

Based on Data in Table 2, Column 1

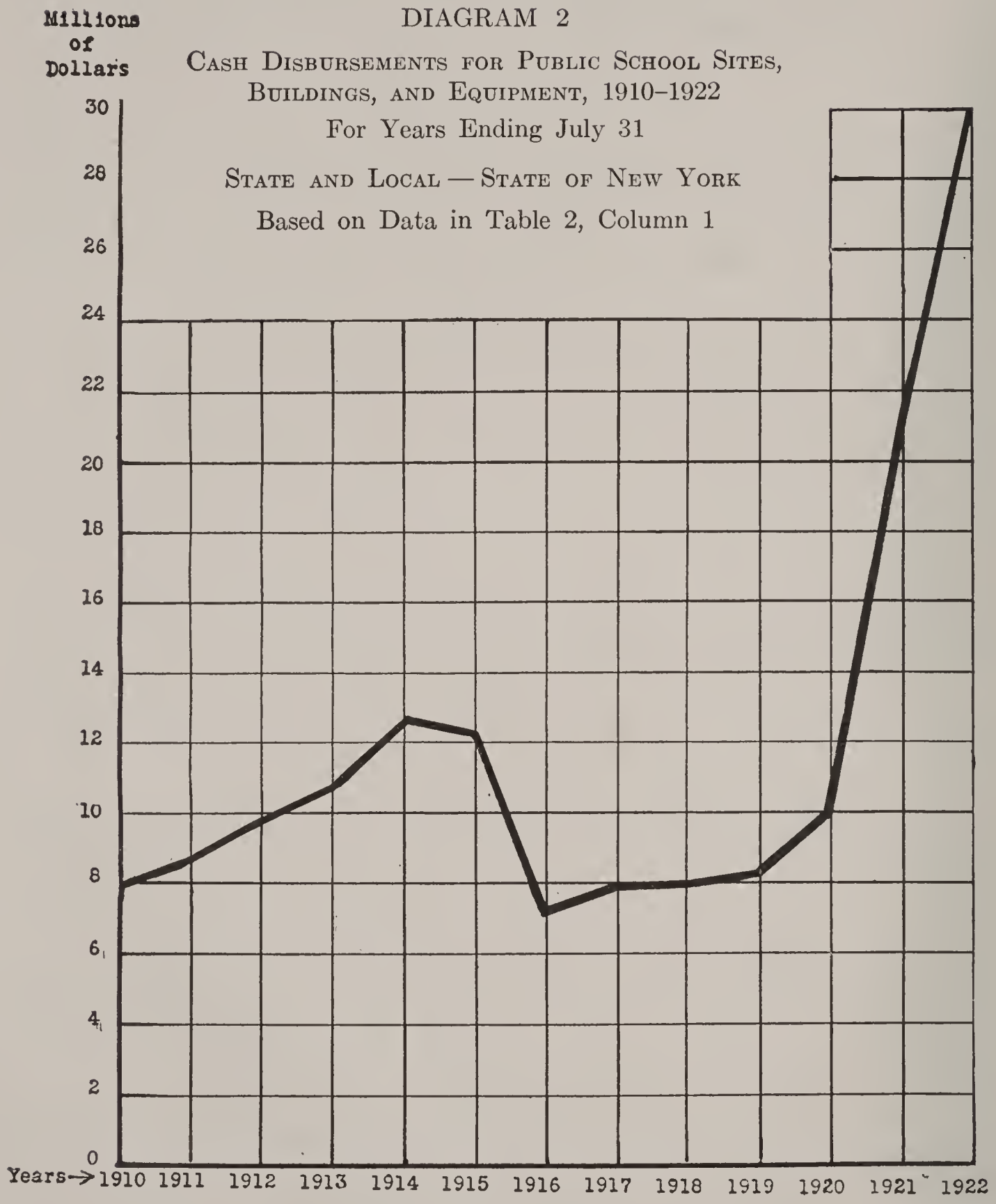


TABLE 2

PLANT COSTS OF PUBLIC EDUCATION, 1910–1922

A. Cash Disbursements

For Years Ending July 31

State and Local — State of New York

Year	Capital Outlay[1]	Interest Payments[2]	Total
1910	$ 7,923,152	$4,182,018	$12,105,170
1911	8,562,419	4,249,927	12,812,346
1912	9,762,159	4,294,316	14,056,475
1913	10,738,778	4,870,354	15,609,132
1914	12,610,632	5,275,382	17,886,014
1915	12,244,801	5,614,285	17,859,086
1916	7,117,414	5,452,861	12,570,275
1917	7,872,247	5,405,562	13,277,809
1918	7,956,731	5,584,309	13,541,040
1919	8,337,141	5,508,667	13,845,808
1920	9,996,662	5,951,620	15,948,282
1921	20,786,138	6,578,355	27,364,493
1922	30,033,883	6,804,948	36,838,831

City of New York Only

1910	$4,171,189	$3,503,545	$7,674,734
1915	6,654,454	4,406,124	11,060,578
1920	2,863,398	4,083,690	6,947,088
1921	9,559,011	4,162,922	13,721,933
1922	13,857,989	4,600,000	18,457,989

[1] This item includes disbursements for sites, buildings, and equipment. In obtaining this figure certain adjustments were made to allow for the changes in classification in the reports of the State Department of Education and to exclude expenditures for repairs and other items included under capital outlay in the state report classification.

[2] Interest payments for the City of New York are estimated on the assumption that the ratio of interest on the educational debt to interest on the total city debt is the same as is the ratio of the amount of the city educational debt to the amount of the total city debt.

[3] The state's fiscal year was changed at this time so that certain of the state expenditures were for a nine-month rather than a twelve-month period.

seem to show that certainly the expenditure of 1921 and perhaps even the large 1922 expense was only what might have been expected in the ordinary course of events, had there been no interruption due to the war and no great changes in construction costs.

A large part of the money spent for capital outlay during the period represents mere replacements of worn-out plant and equipment, rather than extensions of plant or improvements in the grade of facilities. As a matter of fact, the actual depreciation in existing buildings and equipment during the period 1910–1921 [1] was sufficient to offset nearly one-

[1] See p. 35, Table 3.

half the total amount credited to capital outlay in the table and diagram during those years.

It must be remembered, also, that capital outlay for extensions of plant is necessary merely because of increased numbers, entirely aside from the question of improving the standards of the school plant. From 1910 to 1920 the population of the state increased fourteen per cent and the pupils in average daily attendance twenty-two per cent.[1]

Even more important than the foregoing considerations is the phenomenal increase in the cost of building schoolhouses. In spite of the tendency to restrict capital outlay during the war, it is of interest to note that almost precisely the same amount of money was spent on school plant during the second six years of the period as during the first six years (1910–1915, $61,850,000; 1916–1921, $62,070,000). However, construction costs during the latter half of the period were so much higher[2] than during the first half that the accommodations supplied by the capital outlay of the second six years were certainly not more than one-half as large as those secured by the outlay of the first six years.

These facts all tend to support the view that the state has not yet reached the peak of capital outlay. On the contrary, they indicate that, if the same standard of plant facilities is to be maintained in the future as has been reached in the past, large increases are to be expected in the forthcoming years. How inadequate the standard has been is clearly evident from the statistics of part-time students[3] for whom full-time accommodations are not available.

The figures for the City of New York alone, shown at the bottom of Table 2, prompt two observations. The first is that, during the past three years, the city, as compared with the rest of the state, has spent relatively less for new school plant than it did in 1910 and 1915. The second point is the evidence, supplied by the interest payments, regarding the increased extent to which the school plant up-state is financed by borrowed money. Whereas in 1910 the interest payments on school debt in the City of New York alone made up seven-eighths of the total for the state, in 1920, 1921, and 1922 they formed only about two-thirds of the total.

B. Annual Accrued Economic Charge. — In the preceding section plant costs are discussed in terms of the cash disbursements made from the public treasury during the period. The figures now presented relate not to actual dollar operations of the treasury, but rather to the true annual

[1] Burgess discovered what he terms a "striking uniformity" in the percentages of total school expenditures devoted to the purchase of sites, buildings, and equipment in the country as a whole over a period of years. W. Randolph Burgess, "Trends of School Costs" (Department of Education, Russell Sage Foundation, 1920), pp. 88–89. There appears to be no fundamental reason why this relation should remain constant. It is of interest to note that the percentages for New York State for the past twelve years run considerably lower than those which Burgess cites for the country as a whole.

[2] Burgess (*op. cit.*, pp. 117–118) estimated that the cost of building schoolhouses in 1920 was three times as great as in 1915.

[3] See pp. 91, 119.

accrued economic charge upon the community's resources, occasioned by the school plant. Annual accrued economic charge means not *money paid* but *money's worth used up.*

In the first set of figures, capital outlays appear when the money used to provide the plant leaves the public treasury. In the second, this item appears from year to year as the plant which occasioned the outlay is consumed or worn out. Again, the first statement includes only interest payments actually made by the public treasury on such portions of the capital as remain unpaid, no account being taken of the annual interest value of the remainder of the capital tied up in the enterprise. In contrast, the second statement contains an item representing annual interest computed on all the capital invested in the school system (which would otherwise conceivably be available for other uses, public or private), irrespective of whether the state secured this capital by loans or taxes. The figures, classified according to this second viewpoint, are presented in Table 3 under the caption of " Annual Accrued Economic Charge."

TABLE 3

PLANT COSTS OF PUBLIC EDUCATION, 1910–1921

B. Annual Accrued Economic Charge[1]

For Years Ending July 31

State and Local — State of New York

Year	Value of School Buildings and Equipment Worn Out during Year	Imputed Interest on the Value of the Investment in School Sites, Buildings, and Equipment	Total
1910	$3,204,549	$ 7,055,610	$10,260,159
1911	3,338,240	7,294,067	10,632,307
1912	3,612,369	8,018,566	11,630,935
1913	3,661,166	8,046,804	11,707,970
1914	3,917,698	8,702,347	12,620,045
1915	4,199,055	9,464,338	13,663,393
1916	4,343,951	9,216,550	13,560,501
1917	4,569,057	10,239,667	14,808,724
1918	4,721,635	10,854,441	15,576,076
1919	4,895,058	10,555,635	15,450,693
1920	5,390,739	12,773,052	18,163,791
1921	6,127,870	13,509,079	19,636,949
City of New York Only			
1910	$1,567,891	$4,246,285	$5,814,176
1915	2,059,267	5,654,779	7,714,046
1920	2,327,800	5,913,298	8,241,098
1921	2,524,455	6,326,363	8,850,818

[1] Or amount of money's worth actually used up.

A detailed explanation of the method by which the estimates of depreciation and imputed interest were made will be found in Chapter V, pages 82–88.[1] The items are presented merely as approximations, but it is believed that they are substantially accurate.

A comparison of Table 3 with Table 2 will make clear these significant differences:

(1) The rate at which the school plant depreciated and became obsolete is more regular than the rate at which new plant was added, but in every year, even during the war, the community added to its school plant more than it used up.

(2) The "imputed interest" shown in Table 3 is consistently larger in amount than the cash disbursements for interest, because it is calculated on the entire amount of capital used, whereas the "interest payments" shown in Table 2 represent only the interest on borrowed portions of that capital.[2]

(3) The annual accrued economic charge gives, of course, a more regular rate of increase than the total cash disbursements; but after all, the differences in the aggregate are not very great.

Total Cost

By combining the figures of current expenses with the two types of plant costs developed in the two preceding sections, comprehensive figures of total costs are obtained, truly representative of the aggregate burden occasioned by the system of public education in the state. These totals are presented in Table 4 and Diagram 3. It will be noted that these figures include the costs of tax-supported education of all types, excepting only the costs of state institutions for the blind, deaf, dumb, and otherwise defective, and the costs of public libraries.

Because of the double method of measuring plant costs, two aggregates are presented, each of which has its peculiar advantages in making clear the situation. The column bearing the caption "Cash Disbursements" is the sum of the current expenses shown on page 30, and the "Cash Disbursements" from the Plant Costs Table on page 33. Under the caption "Annual Accrued Economic Cost" appear figures obtained by substituting the "annual accrued economic charge" figures from page 35 in place of the "cash disbursements" figures as the measure of plant costs.

The figures in Table 4 comprise the best statement which the Commission could prepare concerning the total costs of tax-supported public education in the State of New York. To one who wishes to know how

[1] The attention of the reader is called particularly to the discussion of the appreciation in the value of school sites and its significance in this connection.

[2] Interest payments would exceed imputed interest only if the outstanding obligations exceeded the value of the school plant.

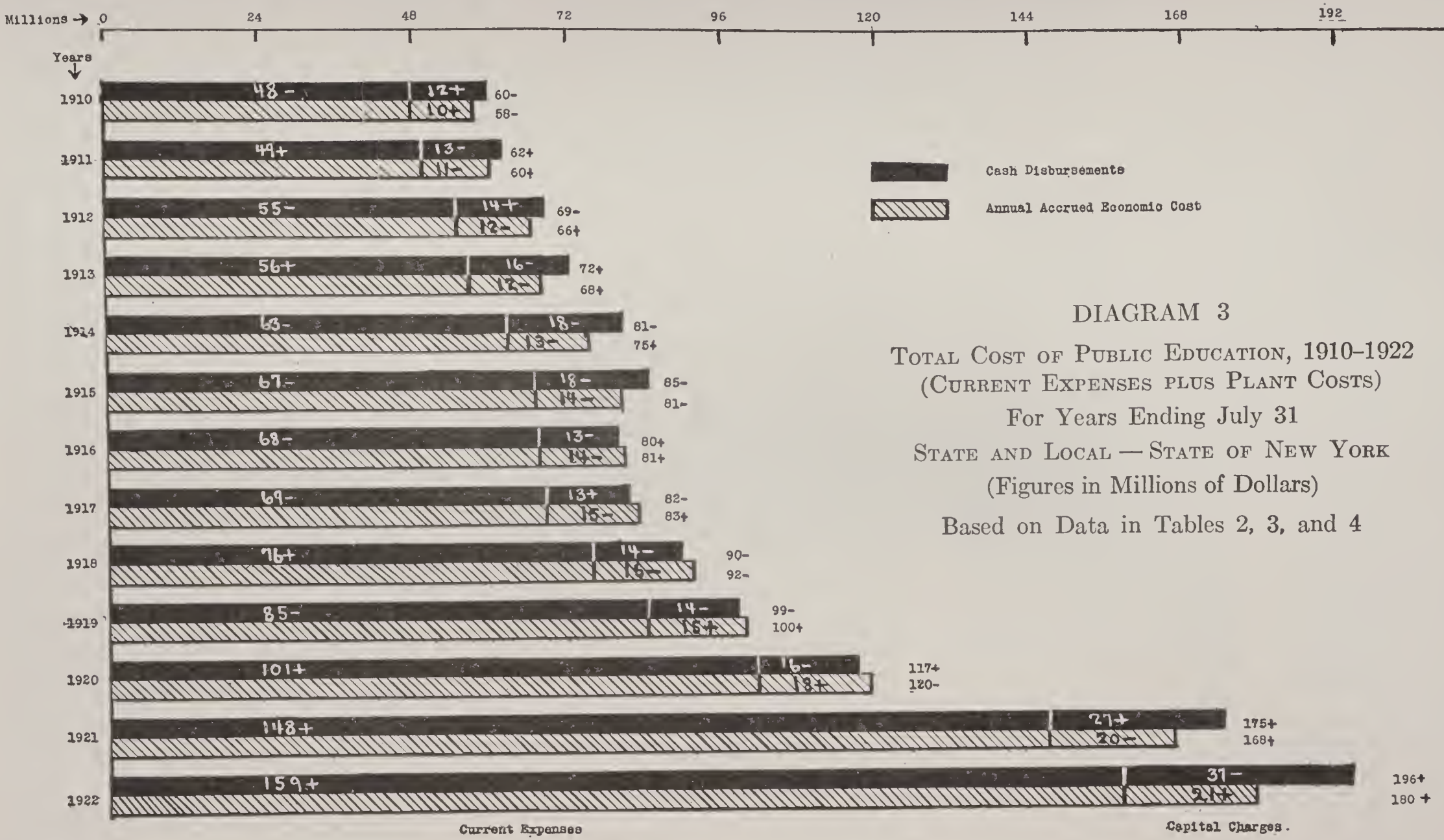


DIAGRAM 3

TOTAL COST OF PUBLIC EDUCATION, 1910–1922
(CURRENT EXPENSES PLUS PLANT COSTS)
For Years Ending July 31
STATE AND LOCAL — STATE OF NEW YORK
(Figures in Millions of Dollars)
Based on Data in Tables 2, 3, and 4

much money has been paid out annually from the public treasury, the first set of figures supplies a precise answer. To one who wishes to know the true amount chargeable to each year on account of operation and maintenance of the school system, together with the interest on the value of the plant in use, the second set gives the closest available estimate.

TABLE 4

TOTAL COST OF PUBLIC EDUCATION, 1910–1922

CURRENT EXPENSES PLUS PLANT COSTS

For Years Ending July 31

State and Local — State of New York

YEAR	CASH DISBURSEMENTS[1]	ANNUAL ACCRUED ECONOMIC COST
1910	$ 59,626,228	$ 57,781,217
1911	62,283,177	60,103,138
1912	68,737,101	66,311,561
1913	72,039,243	68,138,081
1914	80,600,659	75,334,690
1915	84,841,675	80,645,982
1916[2]	80,118,748	81,108,974
1917	81,859,971	83,390,886
1918	89,799,439	91,834,475
1919	98,701,237	100,306,122
1920	117,344,153	119,559,662
1921	175,480,003	167,752,459
1922	196,034,409	180,311,167[3]
City of New York Only		
1910	$35,056,835	$33,196,277
1915	48,667,740	45,321,208
1920	59,504,145	60,798,155
1921	97,577,140	92,706,025
1922	104,658,125	———

[1] These figures exclude transfers, refunds, payments on bonds, and temporary loans and payments to sinking funds and other governmental cost payments.

[2] The state's fiscal year was changed at this time so that certain of the state expenditures were for a nine-month rather than a twelve-month period.

[3] An estimate for this figure was the only thing possible at the time this table had to be closed. For this reason the corresponding items for the City of New York in Table 4 and for all data on 1922 in Table 3 are omitted.

Considering first the cash disbursements, the table shows that during the year 1921–1922 more than 196 million dollars of public money were spent on schools in the state. The expense has nearly trebled in the decade since 1912. Most of the increase came in the single year 1921, when 58 millions were added, a sum slightly larger than the total increase during the entire preceding ten years. The cash payments by the City of New

York alone have increased from 35 millions in 1910 to nearly 105 millions in 1922.

The total cash disbursements show a gradual and moderate increase from 1910 to 1915. During the following two years, due to causes already pointed out,[1] those actual "out-of-pocket" expenditures fell below the mark established in 1915; 1918 exceeded 1915 once more; and the annual increases have been large each year since.

Turning to the annual accrued economic cost,[2] the figures show that in 1921 this item reached nearly 168 million dollars, the amount quoted in the first paragraph of this chapter, and in 1922, 180 million dollars. These figures compare with a cost of approximately 58 millions in 1910. For the reasons suggested in preceding sections[3] the figures show a fairly even progression.

In the City of New York, the annual accrued economic cost of the public schools is placed at approximately 93 millions in 1921 as compared with 33 millions in 1910.

However measured, the outstanding fact is that the aggregate cost of the tax-supported school system of the state has trebled in a period of twelve years. This statement, however, should not be considered out of relation to its background. The facts regarding the increase in school enrolment, the expansion of the educational program, the increased cost of building materials and supplies, and the increase in the cost of living with its effect upon salaries and wages, should all be kept in mind. All together they go far to explain the increase. No attempt is made in this chapter, however, completely to explain or to justify it. The purpose here is primarily to establish the facts regarding the extent of the increase.[4]

Total Costs of Schools of Different Grade

It is possible to segregate in a fairly satisfactory manner the total cash disbursements (but not the annual accrued economic cost) in such a manner as to show, separately, the aggregate costs of higher education, high schools, elementary schools, and certain general costs of supervision. Table 5 presents such figures for selected years. It should be borne in mind that the figures as they appear in the table include capital outlay and interest as well as current expenses.

Aggregate expenses for high schools have increased at a somewhat more rapid pace than the expenses for elementary schools. Expenses for ele-

[1] See pp. 29, 31.

[2] Strictly speaking, the term "annual accrued economic cost" is too broad to apply to the figures given above. These figures do not comprehend the entire cost of the system of public education, if the amounts expended by individuals for subsistence during the period of training, and the loss to the community of the economic efforts of the individuals being trained and directing the training, are to be considered as entering into the cost. It is impossible, however, at present, to supply even approximate estimates of these costs.

[3] See p. 36.

[4] See pp. 36–38.

mentary schools and high schools together amounted to 95.1 per cent of the total cash payments in 1910 and to 95.9 per cent in 1922.

TABLE 5

TOTAL COST OF PUBLIC EDUCATION (CASH DISBURSEMENTS) CLASSIFIED BY TYPE OF ACTIVITY RECEIVING SUPPORT, 1910, 1915, 1920–1922

For Years Ending July 31

State and Local — State of New York

	1910	1915	1920	1921	1922
Elementary Schools [1]	$48,352,542	$66,447,939	$ 92,142,879		
High Schools [1]	8,358,208	14,069,678	19,102,706		
Total Elementary and High Schools	$56,710,750	$80,517,617	$111,245,585	$167,967,249	$188,075,160
Normal Schools and Colleges	1,491,874	2,979,159	4,372,239	5,483,503	6,133,281
Miscellaneous General Costs [2]	1,423,604	1,344,899	1,726,329	2,029,251	1,825,968
Total [3]	$59,626,228	$84,841,675	$117,344,153	$175,480,003	$196,034,409

City of New York Only

Elementary Schools [1]	$30,233,034	$39,714,303	$49,091,682		
High Schools [1]	4,023,848	8,077,480	9,330,349		
Total Elementary and High Schools	$34,256,882	$47,791,783	$58,422,031	$95,860,100	$102,036,355
Normal Schools and Colleges	799,953	875,957	1,082,114	1,717,040	2,621,770
Total [3]	$35,056,835	$48,667,740	$59,504,145	$97,577,140	$104,658,125

[1] It should be noted that the figures for high schools and elementary schools are consolidated in the school reports under the caption of "common schools." The separate figures as given in Table 5 for high schools and elementary schools were calculated by applying the salary-ratio formula (see p. 42) to this total figure for "common schools." Consequently, although the sum of these two figures will be found to correspond precisely with the total as given in the reports, the accuracy of the individual items is subject to the limitations of the salary formula.

[2] The figures given under the caption "Miscellaneous General Costs" consist of the expenses of the State Department of Education. These include the salaries of the district superintendents, which are paid directly by the state. They do not include the distinctively local and internal costs of administration. It proved impossible, owing to inadequate accounting, to segregate these. Subventions and expenditures for state institutions and Indian schools appear in the other categories. Finally, the figures do not include the expenditures for the Panama-Pacific exposition and certain other similar expenditures. It should be noted that these figures include capital outlay as well as current expenses, a fact which goes far to explain the relatively slight increase in the twelve-year period. During the first five years of the period an aggregate of $3,853,708 was spent on capital outlay, which included the cost of the state education building at Albany.

[3] These figures include capital outlay, interest, and current expenses but exclude transfers, refunds, payments on bonds and temporary loans, payments to sinking funds, and other non-governmental cost payments.

In the State of New York relatively little public money is devoted to the support of education above the high school, but in the period under review

that support has increased at a somewhat more rapid rate than the support of either elementary or high schools. This is true even though there has been only a relatively slight increase in the amounts spent by the institutions of higher education in the City of New York as compared with the up-state institutions.

To summarize: The examination of the aggregate figures shows that the cost of the tax-supported public school system of the state in 1922 was $196,034,409 on the "cash disbursement" basis. In 1921 the corresponding figure was $175,480,003. On the more precise "annual accrued economic cost" basis, the cost in 1921 was $167,752,459. In 1910 the "cash disbursements" were only $59,626,228 and the "annual accrued economic cost" only $57,781,217. In other words, the cost has approximately trebled since 1910. So far as it is possible to judge, current expenses are likely to increase and capital charges are almost certain to increase in the years immediately ahead. In 1920, the latest year for which data are available, 78.5 per cent of the total cash disbursements went directly to the support of the elementary schools. If present trends continue this percentage will decrease, and in the future high schools and higher education will absorb a progressively larger part of the total disbursements.

CHAPTER IV

CURRENT EXPENSES OF PUBLIC EDUCATION ANALYZED

The preceding chapter deals with aggregate figures for the public school system — not only current expenses[1] but capital outlay and interest on bonded indebtedness as well. This chapter presents a somewhat detailed analysis of the current expenses only, and attempts to throw light on particular purposes for which money is spent and on variations in such expenditures from community to community.[2]

It is obvious that an analysis of this kind is likely to raise many questions which it does not answer. Definite conclusions often cannot be fairly drawn without going behind the figures. But by merely stating the question more precisely, such an analysis contributes toward the solution of the problem, in that it substitutes specific queries for vague general complaints. Instead of "Why do the schools cost so much?" the taxpayer and the educator ask, "Why do current expenses of elementary schools in one community cost in 1921 $272 per pupil in average daily attendance, when in another community they cost only $26? Why did one community pay $34 in current expenses to care for each pupil in its high school, while another community spent $1132, or more than thirty times as much? Why did kindergartens in one community cost $21 per pupil and in another $113?" The figures are real ones.

The results of the cost analysis summarized in this chapter are to be published in detail in two supplementary volumes. It is hoped that they will stimulate those in control of public schools in the various communities studied to inquire concerning the quality of the educational service which is being rendered, and the efficiency of the organization and administration of their schools.

The Salary-Ratio Formula. — A cost analysis such as that outlined above is limited by the precision of the accounting system used as the basis for school reports. In 1920 the State Department of Education called for reports which distributed current expenses among kindergartens, elementary schools, high schools, teacher training schools, vocational schools,

[1] It should be noted that current expenses are defined so as to include interest on temporary debt but to exclude bond interest.

[2] This, of course, does not constitute a complete cost analysis. It is simply the best analysis the Committee has found it possible to make in the face of inadequate methods of public accounting, inherent difficulties of measuring product in the field of education, and the impracticability of making elaborate field studies in the various individual communities.

and special schools. It was hoped that these figures would supply the exact information desired. Unfortunately, however, a careful check showed that only 18 out of 10,376 school systems submitted reports of the character prescribed. At the very outset, therefore, it was necessary to resort to some form of estimate. It was necessary to develop a method whereby current expenses for the different divisions of the school system could be calculated from the general data available.

In the course of various attempts to find a rule which would satisfactorily distribute expenditures among the divisions of the school system it was discovered that the amount of money spent for teachers' salaries bears a close and constant relationship to total current expenses in each division of the school system. This proved to be true both in the eighteen cities in the State of New York for which data were available and in a group of cities in the State of Pennsylvania from which similar data were secured. Since the relation between teachers' salaries for a division, and current expenses for that division is constant, and since both for the year 1920 and for previous years, the salaries of teachers in the various divisions of the school system of the State of New York — kindergarten, elementary, secondary, and the like — were separately reported, it was possible to adopt the procedure represented by the following formula:

Total current expenses multiplied by Elementary teachers' salaries divided by Total teachers' salaries equals Total current expenses for elementary schools.

$$\text{Total current expenses} \times \frac{\text{Elementary teachers' salaries}}{\text{Total teachers' salaries}} = \text{Total current expenses for elementary schools}^{1}$$

Elementary School Costs

Current Expenses for Elementary Schools — General. — In the year 1921 [2] it cost in current expenses an average of $89 per pupil to operate the elementary schools of the state. This figure is obtained by dividing the total current expenses of elementary education by the total number of

[1] In the validation of the salary-ratio formula thirty-seven cities whose accounting permitted of the segregation of costs by divisions of the school system were used. Per-pupil costs were found first by taking the costs as indicated by the records which were kept and the reports which were made. The same per-pupil costs were then calculated by using the salary-ratio formula. The average of the recorded per-pupil cost was $51.44. The average cost as determined by the salary-ratio calculations was $51.50. The correlation between the real costs and the salary-ratio calculated costs gave a Pearson "r" of $+.988 \pm .003$. The correlation between the total (not per-pupil) cost figures is $r = +.999 \pm .0002$. The partial correlation between these figures when average daily attendance in elementary schools is rendered constant is $r = +.973 \pm .006$. The errors or deviations from the real cost in the calculated cost are compensating since the salary-ratio costs were greater than the real costs in 19 cases, in 1 case the same, and in 17 cases less. It is important to note that the thirty-seven communities from which accurate accounting was available and which were used in comparing the real cost with the calculated cost ranged in population from 7,000 to nearly 300,000. The algebraic sum of the difference for the thirty-seven school systems between the real costs per pupil and the salary-ratio costs per pupil is $2.03. This is an average difference of 5½ cents or one-ninth of one per cent of the average cost per pupil.

[2] All figures in this chapter are for years ending July 31.

children in average daily attendance. The variation in current expense in the various divisions or administrative units is shown in the following table:

TABLE 6

ELEMENTARY SCHOOL COSTS — STATE OF NEW YORK, 1920, 1921

CURRENT EXPENSES PER PUPIL IN AVERAGE DAILY ATTENDANCE

	1920	1921
New York City alone	$61	$95
All cities	54	94
All villages over 4,500	54	66
All villages under 4,500	53	60
Rural schools	61.74 [1]	[2]

[1] This figure was derived by securing data from the first numbered rural school (not a union free school) district in each township in the state. The rural school survey, from a selection of all rural schools in 24 supervisory districts scattered over the entire state, found the median current expense per pupil in average daily attendance for this year to be $64.76. See Joint Committee on Rural Schools, "Rural School Survey of New York State" (Ithaca, N. Y., 1922), Vol. I, p. 216.

[2] The labor involved in computing this figure for these schools with records unbound at the time the work would have had to be done precluded attempting to give the figure for this year. There are good reasons for believing that it would have been closer to its 1920 figure than were the 1921 figures for the other groups to their 1920 figures.

Variations from City to City. — A more complete analysis of the variation in current expenses among the cities of the state is given in the following table:

TABLE 7

ELEMENTARY SCHOOL COSTS — CITIES — STATE OF NEW YORK, 1911, 1916, 1921

CURRENT EXPENSES PER PUPIL IN AVERAGE DAILY ATTENDANCE

CITIES	1911	1916	1921
1st-Class Cities [1]			
Average [2]	$39	$49	$92
High	45	51	101
Low	35	48	82
2d-Class Cities			
Average [2]	$34	$40	$79
High	43	50	98
Low	23	33	60
3d-Class Cities			
Average [2]	$32	$36	$69
High	64	65	104
Low	17	24	32

[1] First-class cities — over 175,000 population. All cases were used, 3 in number.
Second-class cities — 50,000 to 175,000 population. All cases were used, 7 in number.
Third-class cities — below 50,000 population. The number increased from 40 in 1911 to 49 in 1921. All cases were used save in 1911, when one had to be omitted.

[2] This is the simple arithmetic average.

Costs in first-class cities tend to run higher than in smaller cities. For the year 1921, for example, the average of first-class cities is $13 above that of second-class cities and $23 above that of third-class cities. It is interesting to note that the most expensive and the least expensive city in the state, in each of the three years, were both cities of the third class.

Variations from Village to Village. — The current expenses of elementary schools in the larger villages were even more variable than among the cities of the state. The facts appear in the table given below:

TABLE 8

ELEMENTARY SCHOOL COSTS — VILLAGES OVER 4,500
STATE OF NEW YORK, 1911, 1916, 1921

CURRENT EXPENSES PER PUPIL IN AVERAGE DAILY ATTENDANCE

	1911	1916	1921
Average	$32	$40	$66
High	53	66	125
Low	13	22	36

It will be observed that the village average for 1921 ($66) is considerably lower than the city average for that year ($94). Although particular instances are not lacking of villages which spent more than the most expensive city, no village of this size for 1921 had as low a cost as the least expensive city. In 1911 and 1916 these rules are slightly less true. In general, however, the figures show that the current expenses for elementary schools have increased less rapidly in villages of over 4,500 population than in the cities. In the villages, expenses have just doubled. In every class of city they have more than doubled since 1911.

A similar variability is shown for villages under 4,500 population in Table 9.

TABLE 9

ELEMENTARY SCHOOL COSTS — VILLAGES HAVING LESS THAN
4,500 POPULATION AND MAINTAINING HIGH SCHOOLS
STATE OF NEW YORK, 1921

CURRENT EXPENSES PER PUPIL IN AVERAGE DAILY ATTENDANCE

Union Schools

	ONE-YEAR HIGH SCHOOL	TWO-YEAR HIGH SCHOOL	THREE-YEAR HIGH SCHOOL	FOUR-YEAR HIGH SCHOOL
Average	$55	$58	$67	$58
High	93	127	272	147
Low	31	32	31	26

The average current expense in these communities, except in the case of those maintaining the three-year high school course, is lower than for

the larger cities and villages of the state. On the other hand, the variation in current expense is greater. It appears that very high expenditures are associated with provision in these villages for two or more years of high school education. This may mean that the more ambitious communities, as measured by the provision which they make for high school education, are also the communities which provide most adequately for their elementary schools.

Current Expenses and Teachers' Salaries. — The increase in current expense per pupil for elementary education has been due both to an increase in the salaries of teachers and to increases in other current expenses. Table 10 gives the expense per pupil for teachers' salaries and the total current expenses per pupil in average daily attendance in elementary schools for the years 1911 and 1921.

TABLE 10

ELEMENTARY SCHOOL COSTS — CITIES AND VILLAGES OVER 4,500 STATE OF NEW YORK, 1911, 1921

TOTAL CURRENT EXPENSES COMPARED WITH TEACHERS' SALARIES, PER PUPIL IN AVERAGE DAILY ATTENDANCE

	TEACHERS' SALARIES		TOTAL CURRENT EXPENSES		PERCENTAGE INCREASE TEACHERS' SALARIES	PERCENTAGE INCREASE TOTAL CURRENT EXPENSES
	1911	1921	1911	1921		
Low						
1st-Class Cities . .	$25	$53	$35	$82	112	134
2d-Class Cities . .	19	42	23	60	121	161
3d-Class Cities . .	11	23	17	32	109	88
Villages over 4,500 .	9	32 [2]	13	52 [2]	256	300
The Middle Case [1]						
1st-Class Cities . .	$29	$64	$37	$ 95	121	157
2d-Class Cities . .	26	55	36	83	112	131
3d-Class Cities . .	20	41	30	67	105	123
Villages over 4,500 .	19	42 [2]	32	66 [2]	121	106
High						
1st-Class Cities . .	$36	$72	$45	$101	100	124
2d-Class Cities . .	34	64	43	98	88	128
3d-Class Cities . .	34	61	64	104	79	63
Villages over 4,500 .	30	65 [2]	53	94 [2]	117	77

[1] As many cities rank above as below it, when compared as to the amounts they spend. The extreme cases are reported as "low" and "high."

[2] The 1921 figures for villages are those obtained from the same 27 villages that determine the 1911 figures. Elsewhere in this report data are given for 58 villages.

Number of Cases Included in Table 10

Cities:

First-class	3
Second-class	7
Third-class	46–49
Villages over 4,500	27

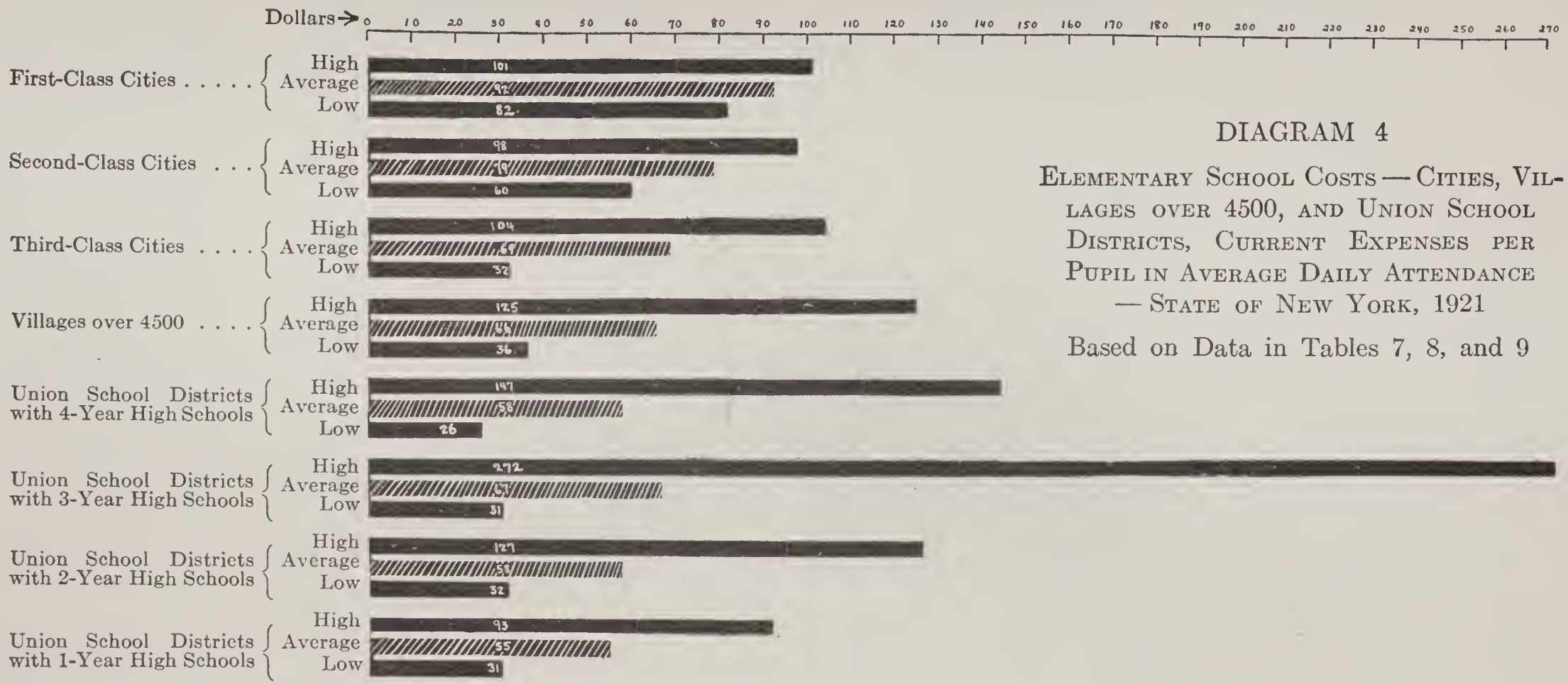


DIAGRAM 4

ELEMENTARY SCHOOL COSTS — CITIES, VILLAGES OVER 4500, AND UNION SCHOOL DISTRICTS, CURRENT EXPENSES PER PUPIL IN AVERAGE DAILY ATTENDANCE — STATE OF NEW YORK, 1921

Based on Data in Tables 7, 8, and 9

In eight out of twelve of the cases reported, total current expenses increased more rapidly between 1911 and 1921 than teachers' salaries.

The facts relating to elementary school current expenses in 1921, as presented in the foregoing tables, are summarized in Diagram 4. The figures indicate that in some of the schools the provision for the education of children is rich, while in others it is meager indeed. If the wide variation in costs shown in the diagram indicates a corresponding variation in educational advantages, the question at once arises as to whether this latter variation can be justified, or whether there is extravagance in some cases and at the same time offerings below the "necessary minimum" of educational opportunity in others.[1]

Some part of the variation in elementary school costs is undoubtedly due to a variation in the efficiency and intelligence with which schools are organized and administered. Some economies — the quantitative importance of which cannot be estimated without a much more exhaustive study — are doubtless attainable, and desirable. It should be noted, however, that such a study may often result in recommending the provision of increased educational opportunity, and not always a reduction of money needed.

Current Expenses in Elementary Schools by Grades and by Objectives. — The salaries of teachers can be allocated with a fair degree of accuracy to the grades in which they give instruction, and to the several subjects taught, by assuming that that part of a teacher's time which is devoted to any grade, or to a particular subject, properly represents the part of the salary which should be charged against that grade or subject. In like manner, one can allocate the salaries of teachers of special subjects and the supervisors of special subjects. The assumption involved — that a teacher's time has a uniform value — is a reasonable one.

The Method of Approach. — To secure the necessary facts with respect to the salaries of teachers and the allotment of their time, a special report was requested from the several cities of the state.[2] A copy of the form, as filled out by one of the cities, is printed as Table 11.

The grouping of subjects in Table 11 has reference to the general objectives sought in the elementary schools: [3]

[1] See p. 174.

[2] Complete returns were received from one out of three of the first-class cities; from four out of seven of the second-class cities; from thirty out of forty-nine of the third-class cities; from forty out of forty-six of the villages of over 4,500 population; from two hundred twenty-two out of four hundred twenty-four union school districts having four-year high schools; from forty-two out of one hundred twelve union school districts having three-year high schools; from fifteen out of thirty-four union school districts having two-year high schools; from thirty out of forty-nine union school districts providing one-year high school work. A larger number of superintendents and principals filled out the blanks, but many of the returns were rejected because they were incomplete or otherwise defective.

[3] For a definition of these objectives, see "Elementary School Costs in the State of New York," one of the publications of the Educational Finance Inquiry Commission.

TABLE 11

A Sample Copy of Report Used as Basis for Distribution of Current Expenses of Elementary Schools among Grades and Subjects

True Copy

Elementary Program—Public Schools—New York State

NAME OF CITY, VILLAGE, OR TOWN..Third Class City..... COUNTY.....

Return to Hiram C. Case
Education Dept
Albany .N .Y

I. Total number of minutes per week during regular school hours devoted by **Regular Grade Teachers** to each of the following:

Grades	English (Reading, Phonics, Literature, Story Telling, Oral English, Language, Composition, Grammar, Spelling, Word Study, Penmanship, Library, Memory Gems)	Arithmetic (Oral, Mental, Written, Number Work, Algebra)	Social Studies (Geography, History, Government, Civics, Citizenship, Humanness)	Health Instruction (Hygiene, Physiology, Calisthenics, Playground Work, Recess Periods, Safety Instruction, Swimming)	Elementary Science (Nature Study, General Science, Biological and Physical Sciences, Except Agriculture)	General Exercises (Opening Exercises, Assembly and Such Exercises)	Foreign Languages (French, Latin, Spanish, German, And Others)	Fine and Practical Arts (Drawing, Freehand, Mechanical, Lettering, Color, Painting, Design, Vocal and Instrument Music, Handwork, Manual Training, Shop, Cooking, Sewing, Millinery, Laundry, Home Economics, Agriculture)	Other Work (All Time of Teachers Not Accounted for under Previous Heads)	Total Number Teachers Last Month	Total Minutes Per Week by Grades (This should equal the sum of the numbers of minutes in the first nine columns.)	Number of Children in Average Daily Attendance Last Month (To get this figure divide total days attendance by number of days taught in month.)	Total Annual Salaries of Teachers by Grades 1921-1922
One	10505	1530	115	2120	155	420		2005		12½	16850	470	$16,700.
Two	8197	2200	112	1905	168	342		1943		10½	14867	415	14,340.
Three	5820	2240	1943	1979	147	394		1693		9½	14216	373	12,890
Four	5200	2260	2533	1785	125	488		1295	252	8½	13938	352	11,650
Five	4830	2498	2922	1553	125	453		1272	115	8½	13768	362	12,005
Six	5125	2832	3315	1828	240	632		1567	225	9½	15764	363	13,245
Seven	4943	2450	3944	1663	75	705		2200	455	10	16435	368	14,140
Eight	5175	3310	3128	1581	165	510		1271	1337	10	16477	298	14,680
Ungraded	670	300	200	200				120	150	1	1640	19	1,300

II Total number of minutes per week during regular school hours devoted by **Teachers of Special Subjects** to each of the following

Grades	English	Arithmetic	Social Studies	Health Instruction	Elementary Science	General Exercises	Foreign Languages	Fine and Practical Arts	Other Work	Total Minutes Per Week	Total Number Special Teachers	Total Annual Salaries 1921-1922
One								158		158	3/20	$ 273
Two								153		153	3/20	273
Three			Three teachers divide time					133		133	3/20	273
Four			between grades and high school					125		125	3/20	273
Five			Hence the fractions in "total					145		145	3/20	273
Six			number Special teachers".					185		185	3/20	273
Seven								1850		1850	1 19/60	2275
Eight								2050		2050	1 29/60	2610

III Total number of minutes per week during regular school hours devoted by **Supervisors of Special Subjects** to each of the following

Grades	English	Arithmetic	Social Studies	Health Instruction	Elementary Science	General Exercises	Foreign Languages	Fine and Practical Arts	Other Work	Total Minutes Per Week	Total Number Supervisors	Total Annual Salaries 1921-1922
One	100							100		200		
Two	90							90		180		
Three	90							90		180		
Four	75							75		150	1	$1710
Five	75							75		150		
Six	75							75		150		
Seven	75							75		150		
Eight	100							100		200		

IV. **Kindergartens:** Children in average daily attendance last month 182 .No. teachers .11.....Total annual salaries 14,000

DATE...June....9,.1922..... FILLED OUT BY.....SUPERINTENDENT

.....PRINCIPAL

English includes all phases of reading, writing, English composition, spelling, grammar, literature, and the like.

Arithmetic.

The *social studies* include history, geography, government, civics, and citizenship.

Health instruction includes hygiene, physiology, recess, and playground activities.

Elementary sciences include nature study, general science, biological and physical sciences.

General exercises are variously used for health instruction, for work in the general field described by the social studies, or for some other special purpose.

The *foreign languages*.

Fine and practical arts include drawing, music, and industrial and household arts.

In order to make clear the precise method employed in utilizing the data, there is given in the table which follows a summary of the data for the fifth grade taken from the report of one city:

TABLE 12

SUMMARY OF DATA FOR THE FIFTH GRADE TAKEN FROM THE SPECIAL REPORT OF ONE CITY, STATE OF NEW YORK, 1922

Subject	General Instruction	Special Instruction [1]	Special Supervision [1]
	Minutes per week devoted to each objective by *each* regular teacher	Minutes per week devoted to each objective by *all* teachers of special subjects	Minutes per week devoted to each objective by *all* supervisors of special subjects
English	525	1677	187
Arithmetic	250	1500	188
Social Studies	275		
Health Instruction	185	5875	534
General Exercises	150		
Fine and Practical Arts	265	21244	1076
Total	1650	30296	1985
	Total of All Regular Teachers	Total of All Teachers of Special Subjects	Total of All Supervisors of Special Subjects
Salaries	$189,079.18	$44,080.88	$2,839.95
Average Daily Attendance	3259	3259	3259

[1] The contrast in number of minutes per week reported, as between regular teachers and teachers of special subjects or supervisors of special subjects, is due to the fact that a typical fifth grade teacher's program is given in the case of one regular teacher, while all of the time devoted to the work of the fifth grades of the city by several special teachers or supervisors of special subjects is included in the record in columns two and three. It is obvious that the total salary charge for regular teachers is properly distributed among the several subjects upon the basis of the single schedule given for one regular teacher. In the case of the teachers of special subjects and supervisors of special subjects the total charge for this grade was determined by taking the number of minutes spent by all of the teachers or supervisors responsible for instruction in this grade, in relation to the total number of minutes which they were employed in the school system, and then charging to this grade its due proportion of the total salaries paid these teachers or supervisors.

The last item but one in the first column of this table is the amount expended for salaries of regular fifth grade teachers ($189,079.18); beneath

this is the average daily attendance for the fifth grade, 3,259 pupils. Dividing the total expenditure for salaries by the average daily attendance gives $58.02, which is the per-pupil cost of services of regular classroom teachers for a year. This cost is subdivided into subject costs on the basis of time devoted to the various subjects by the regular fifth grade teachers. The total time scheduled for all subjects is 1,650 minutes. The cost per minute of instruction is, therefore, $58.02 divided by 1,650, which equals $.035163. This quotient of $3\frac{1}{2}$ cents is then multiplied successively by the number of minutes devoted to each subject, which gives the fifth grade per-pupil expenditures in terms of the salaries of regular teachers. The calculation is as follows:

$ .035163 × 525	= $18.46	= English
.035163 × 250	= 8.79	= Arithmetic
.035163 × 275	= 9.67	= Social studies
.035163 × 185	= 6.51	= Health
.035163 × 265	= 9.32	= Fine and practical arts
.035163 × 150	= 5.27	= General exercises
Total	= $58.02	= Per-pupil cost for regular fifth grade teaching

It should be noted that all the subject-cost figures on elementary schools are only translations of the teacher's time schedule into dollars. These figures measure in money terms the relative weight given to different subjects, and to a slight extent the number of children per teacher. The costs of the subjects will vary as the time devoted to them varies. Reducing the time for a subject and assigning that time to a second subject will reduce the cost of the first subject but not the cost of the grade. The total cost of the grade to the district can be reduced only by reducing the salary of the regular teacher or of the special teacher for that subject. Per-pupil costs per grade or subject will of course be reduced by any increase in the number of pupils per teacher of such grade or subject.

In like manner, the expenditure per pupil for the teachers of special subjects and for the supervisors of special subjects is calculated. The calculations for one city, showing costs by grades and by subjects in terms of the work of classroom teachers, teachers of special subjects, and supervisors of special subjects appear in the following Table 13.

Table 13 is to be read as follows: Of the salaries of regular classroom teachers chargeable against the first grade, the per-pupil charge for English was $34.43; for health instruction $4.52; for general exercises $3.48; for fine and practical arts $9.74. The total expense for the regular teachers' salaries per pupil was $52.17.

In like manner, the sum per pupil chargeable against this grade for teachers of special subjects is allocated as follows: English, $.36; health instruction, $.10; fine and practical arts, $.14; the total for teachers of special subjects, $.60 per pupil. For the supervisors of special subjects,

TABLE 13

ELEMENTARY SCHOOL COSTS — ONE CITY — STATE OF NEW YORK, 1921–1922

Distribution of Salaries of Regular Teachers, Teachers of Special Subjects, and Supervisors of Special Subjects among the Several Objectives, per Pupil Yearly, Based on Average Daily Attendance

	CLASSROOM TEACHERS									TEACHERS OF SPECIAL SUBJECTS								SUPERVISORS OF SPECIAL SUBJECTS								
Grade	English	Arithmetic	Social	Health	El. Science	Gen. Ex.	Foreign Lan.	Fine & Prac. Arts	Total	English	Arithmetic	Social	Health	El. Science	Gen. Ex.	Foreign Lan.	Fine & Prac. Arts	Total	English	Arithmetic	Social	Health	El. Science	Gen. Ex.	Foreign Lan.	Fine & Prac. Arts	Total	Grand Total
1	$34.43			$4.52		$3.48		$9.74	$52.17	$.96			$.10				$.14	$.60	$.09	$.09		$.18				$.43	$.79	$53.56
2	35.91	$8.50		4.73		4.91		8.32	62.37	.59	$.55		.31				.29	1.74	.10	.10		.20				.45	.85	64.96
3	29.69	7.86	$1.57	6.46		4.37		7.69	57.64	68	.31		1.34				1.53	3.86	.18	.18		.21				.43	1.00	62.50
4	20.48	8.90	8.90	6.59		5.35		8.55	58.17	.73	.33		2.50				3.80	7.36	.08	.08		.23				.49	88	67.01
5	18.46	8.79	9.67	6.51		5.27		9.32	58.02	.75	.67		2.63				9.48	13.53	.08	.08		.24				.47	.87	72.42
6	19.11	9.10	10.01	6.74		5.46		9.65	60.07	.77	.68		2.45				10.01	13.91	.09	.09		.25				.46	.89	74.87
Total 1–6	158.08	43.15	30.15	35.55		28.84		53.27	349.04	3.88	2.54		9.33				25.25	41.00	.62	.62		1.31				2.73	5.28	395.32
7	19.59	9.79	13.70	7.24		4.89		9.39	64.58	.19			2.57				11.37	14.13				.36				.39	.75	79.46
8	21.36	10.27	10.27	7.60		6.16		12.12	67.78	.27			2.27				14.60	17.14				.51				.46	.97	85.89
Total 1–8	199.01	63.21	54.12	50.39		39.89		74.78	481.40	4.34	2.54		14.17				51.22	72.27	.62	.62		2.18				3.58	7.00	560.67
Ungraded	43.22	20.13	13.07	10.80		5.66		40.52	133.40																			
Per Pupil Cost of Kindergarten									74.75																			

the amounts per pupil chargeable against this grade are allocated as follows: English, $.09; arithmetic, $.09; health instruction, $.18; fine and practical arts, $.43; the total for supervisors of special subjects, $.79 per pupil; the grand total of the salary charge per pupil for this grade is $53.56.

Salary Costs of Regular Teachers by Grades and by Objectives. — The variation in expenses incurred for the salaries of teachers by grades and by objectives is indicated in Table 14.

TABLE 14

CURRENT EXPENSES — ELEMENTARY SCHOOLS — CERTAIN THIRD-CLASS CITIES, VILLAGES OVER 4,500, AND UNION SCHOOL DISTRICTS — STATE OF NEW YORK, 1921–1922

SALARIES OF REGULAR TEACHERS BY GRADES AND BY SUBJECTS

(The Figures Give the Limits within Which the *Middle Fifty Per Cent*[1] of the Cases Fall, Calculated to the Nearest Whole Dollar per Pupil in Average Daily Attendance)

		Third-Class Cities	Villages over 4,500	Four-Year Union	Three-Year Union	One-Year Union
English	Grade Two	$19–23	$16–26	$16–23	$15–32	$18–26
	Grade Five	11–19	12–17	12–19	11–29	13–34
	Grade Eight	14–25	9–17	13–25	13–38	13–40
Arithmetic	Grade Two	4–6	5–8	5–8	5–11	5–9
	Grade Five	5–8	6–8	5–9	5–13	6–12
	Grade Eight	6–11	7–10	7–14	7–21	10–18
Social Studies	Grade Two	1–2	1–2	1–3	1–2	1–3
	Grade Five	7–9	6–10	6–10	6–14	6–17
	Grade Eight	6–11	6–12	7–15	9–18	10–17
Health	Grade Two	4–7	3–8	3–7	3–6	2–6
	Grade Five	4–6	3–5	3–5	3–6	3–7
	Grade Eight	3–7	2–6	2–6	3–8	3–7
Elementary Science	Grade Two	1–1	1–1	1–2	1–2	.4–1
	Grade Five	.4–1	1–2	1–2	1–3	1–2
	Grade Eight	1–6	1–2	1–3	2–4	1–3
General Exercises	Grade Two	1–2	1–2	1–2	1–3	1–3
	Grade Five	1–2	1–2	1–2	1–3	1–3
	Grade Eight	1–3	1–2	1–4	1–4	1–4
Fine and Practical Arts	Grade Two	3–5	2–4	1–3	1–2	1–3
	Grade Five	3–5	2–4	1–3	1–2	1–2
	Grade Eight	4–8	2–6	2–5	2–5	1–4
Total	Grade Two	34–47	32–46	31–45	28–60	31–50
	Grade Five	36–44	31–43	31–46	32–62	33–75
	Grade Eight	43–58	35–47	35–64	33–94	44–100

[1] The middle fifty per cent is found by cutting off the lowest and highest quarters of the distribution. The remaining two quarters — or fifty per cent — is composed only of cases which cluster around the center.

The first line of the table is to be read as follows: In third-class cities, the amount of regular teachers' salaries spent for teaching English in the second grade, ranges from $19 to $23 for the middle fifty per cent of the cases. One-fourth of these cities show an expense of less than $19, and one-fourth an expense of more than $23. In like manner, the salary charge for teaching English in grade two, in villages with a population of more than 4,500, ranges from $16 to $26; in union free school districts maintaining a four-year high school, from $16 to $23; in union free school districts maintaining a three-year high school, from $15 to $32; and in union free school districts maintaining a one-year high school, from $18 to $26. In each case the middle fifty per cent of the cases fall within the limits recorded. The calculation in every case is to the nearest whole dollar.

These variations in expenditures are due not only to differences in salaries paid to teachers, but even more particularly to variations in the time allotted to the teaching of the several subjects of the elementary school curriculum. The omission of one or more of these subjects would not ordinarily change the total expenditure for salaries of regular teachers for the grade, since the salaries would not be diminished by the omission of any one of the subjects.

The total salary charge tends to increase from the lower grades to the upper. This is due partly to a tendency to place the better trained and more mature teachers in the upper grades and partly to the fact that the average daily attendance per teacher tends to be somewhat smaller in the upper grades than in the lower.[1]

The variation in the amount of salary charged against the several grades and subjects is given somewhat more fully in terms of a single measure in Table 15. The measure used is the middle case, and the calculation is to the nearest whole dollar. This means that in each case one-half of the cities reporting had a higher charge per grade or per subject than that recorded and one-half had a lower charge. These figures are more significant for the third-class cities, villages, and union free school districts than for the first and second-class cities, since more reports were received from these smaller communities.

The variation in costs in Table 15 is merely another way of expressing the variation in time allotted to the several subjects. The assumption is that a teacher's time is equally valuable at any hour of the day, and when used for the teaching of any one of the subjects of the curriculum. From the figures in Table 15 it appears that the cost of teaching English is somewhat higher in the lower grades than in the upper. This is due to the fact that reading, writing, and spelling occupy more time in the lower grades than do literature, grammar, and composition in the upper grades. In

[1] It was found that teachers' salaries for any given grade were approximately uniform in the different communities throughout the state.

TABLE 15

ELEMENTARY SCHOOL COSTS — CITIES, VILLAGES OVER 4,500, AND UNION SCHOOL DISTRICTS — STATE OF NEW YORK, 1921–1922

CURRENT EXPENSES (MIDDLE CASE) FOR SALARIES OF REGULAR TEACHERS BY GRADES AND BY SUBJECTS, PER PUPIL IN AVERAGE DAILY ATTENDANCE

	Grade	ENGLISH	ARITH-METIC	SOCIAL STUDIES	HEALTH	ELEMEN-TARY SCIENCE	GEN-ERAL EXER-CISES	FINE AND PRAC. ARTS	*Total*
First-Class Cities	1	$34	$—	$—	$5	$—	$3	$10	$52
	2	36	9	—	5	—	5	8	62
	3	30	8	2	6	—	4	8	58
	4	20	9	9	7	—	5	9	59
	5	18	9	10	7	—	5	9	58
	6	19	9	10	7	—	5	10	60
	7	20	10	14	7	—	5	9	65
	8	22	10	10	8	—	6	12	68
Second-Class Cities	1	30	4	1	8	1	3	6	49
	2	29	6	1	9	2	2	6	49
	3	24	8	4	8	3	2	6	49
	4	20	9	8	7	2	2	4	47
	5	19	9	8	7	2	2	4	47
	6	18	10	10	6	1	2	6	47
	7	20	10	11	7	1	1	6	47
	8	23	9	9	6	1	2	7	52
Third-Class Cities	1	25	4	1	5	1	2	4	41
	2	22	5	1	4	1	1	4	40
	3	19	6	3	5	1	2	4	41
	4	15	6	6	5	1	1	4	41
	5	15	6	7	5	1	1	4	39
	6	15	8	9	5	1	1	5	44
	7	14	8	8	5	1	2	5	45
	8	16	9	8	5	2	2	6	49
Villages over 4,500	1	20	6	1	5	1	2	3	41
	2	21	6	1	5	1	2	3	41
	3	18	7	3	5	1	2	3	41
	4	17	7	6	4	1	2	3	39
	5	15	7	8	4	1	1	3	40
	6	14	8	10	4	1	1	3	40
	7	14	8	11	4	1	1	4	42
	8	14	9	10	5	1	1	4	40
Union School Districts Four-Year	1	20	5	1	4	1	2	2	35
	2	22	5	3	4	1	2	2	37
	3	17	7	4	4	1	1	2	36
	4	16	6	5	4	1	1	2	35
	5	15	7	8	4	1	1	2	37
	6	14	7	9	4	1	1	2	37
	7	16	8	10	4	1	2	2	42
	8	17	9	10	4	2	2	3	46
Three-Year	1	21	6	2	3	1	3	2	35
	2	23	8	2	4	1	2	2	39
	3	18	8	5	4	1	2	1	38
	4	21	8	6	4	1	2	2	46
	5	20	8	8	4	2	2	2	50
	6	16	8	12	3	1	2	1	42
	7	18	11	12	4	2	2	2	48
	8	17	11	12	5	3	2	3	47
Two-Year	1	23	6	1	4	1	2	1	41
	2	17	6	2	5	1	2	2	39
	3	16	6	4	4	1	2	1	38
	4	16	7	7	4	1	2	1	40
	5	18	10	9	6	1	2	2	48
	6	18	9	8	5	2	2	2	43
	7	15	12	9	6	2	2	2	63
	8	15	12	8	6	2	2	2	46
One-Year	1	22	4	1	4	1	1	1	35
	2	25	8	1	4	1	2	1	40
	3	18	7	4	4	1	2	1	36
	4	22	9	5	4	1	2	2	41
	5	23	7	10	4	1	2	2	43
	6	15	8	9	4	1	1	1	37
	7	18	12	12	4	2	3	3	54
	8	22	16	12	4	2	2	1	54

like manner, there is a tendency to give more time to arithmetic and thereby to raise the cost of its teaching from the fifth grade on. History and geography are ordinarily emphasized from the fourth through the eighth grade, with a stronger tendency to emphasize these and other social studies in the sixth, seventh, and eighth grades. Health instruction and physical education run rather evenly in cost. Apparently the time used in giving such instruction is about the same in all of the grades of the elementary school. Elementary science and general exercises follow the same rule. As indicated by larger costs the fine and practical arts show some tendency toward emphasis in the upper grades, in third-class cities, and in villages of over 4,500. *In all of the communities and in all grades the time and money devoted to the so-called fundamentals — English, arithmetic, and the social studies — is usually two-thirds or more of the total.*

In the data for individual communities, which it is impossible to present here, very great departures from these figures, indicating central tendencies, are found. Such variations suggest the desirability of scrutinizing carefully the time allotted to the various subjects of the curriculum in relation to the results which are secured.

Aggregate Salary Costs of Teaching and Supervision per Pupil in Eight Elementary Grades. — In many of the school systems of the state special teachers who devote their time to some one subject such as music, drawing, manual training, cooking, and the like, supplement the work of the regular classroom teachers. In other systems, persons called supervisors of special subjects teach these special subjects, and are in some degree responsible for the training and direction of the regular classroom teacher in the fields in which she is least well equipped. There are also supervisors or directors of the work done by special teachers. An inquiry concerning the cost of this type of service was instituted. The cost by subjects and by grades, as well as by communities of various sizes, was determined. One gets a fairly adequate picture of the situation from the table on opposite page.

The first line of Table 16 is to be read as follows: In one of the first-class cities referred to, the total charge for the salaries of regular teachers in all eight grades is $481 per pupil. In like manner, the salary charge for the teachers of special subjects is $72, and for supervisors of special subjects $7.

The second section of the table is to be read as follows: In four of the second-class cities, the highest city expenditure for salaries is $514; the average is $413; and the lowest is $359. These figures all refer to the total expenditure, for the salaries of regular teachers, for the grades one to eight inclusive.

For these same cities the highest charge for the salaries of teachers of special subjects is $49; the average $20; and the lowest $17. The highest charge on account of salaries of supervisors of special subjects is $50; the average $17; and the lowest $8

TABLE 16

ELEMENTARY SCHOOL COSTS — CITIES, VILLAGES OVER 4,500, AND UNION SCHOOL DISTRICTS — STATE OF NEW YORK, 1922

AGGREGATE SALARY COSTS, PER PUPIL IN AVERAGE DAILY ATTENDANCE, OF REGULAR TEACHERS, TEACHERS OF SPECIAL SUBJECTS, AND SUPERVISORS, FOR THE WHOLE ELEMENTARY SCHOOL PERIOD, GRADES ONE TO EIGHT INCLUSIVE, CALCULATED TO THE NEAREST WHOLE DOLLAR

GRADES 1–8	REGULAR TEACHERS	TEACHERS OF SPECIAL SUBJECTS	SUPERVISORS OF SPECIAL SUBJECTS	GRAND TOTAL
	HIGH MIDDLE LOW CASE	HIGH MIDDLE LOW CASE	HIGH MIDDLE LOW CASE	HIGH MIDDLE LOW CASE
First-Class Cities (1 case)	$481.	$72.	$7.	$561.
Second-Class Cities (4 cases)	514. 413.[1] 359.	49. 20.[1] 17.	50. 17.[1] 8.	542. 447.[1] 359.
Third-Class Cities (30 cases)	472. 323. 147.	140. 31. 15.	44. 18. 4.	540. 356. 225.
Villages over 4,500 Population (40 cases)	449. 303. 223.	134. 32. 16.	65. 23. .73	449. 355. 223.
4-Year Union Schools (222 cases)	926. 305. 130.	None	None	926. 305. 130.
3-Year Union Schools (42 cases)	976. 365. 173.	None	None	976. 365. 173.
2-Year Union Schools (15 cases)	718. 381. 119.	None	None	718. 381. 119.
1-Year Union Schools (30 cases)	680. 305. 185.	None	None	680. 305. 185.

[1] Average.

It is not possible from these figures to find the total amount to be charged per pupil on account of teachers of special subjects and supervisors of special subjects. There is only one city reporting regular teachers, teachers of special subjects, and supervisors of special subjects in the field of practical arts. In two cases only are regular teachers and teachers of

special subjects employed; while in one of the four cases above referred to no charge is made for special teachers or supervisors of special subjects for the fine and practical arts. These figures are then to be interpreted as giving the charge for this particular type of service wherever it may be found, but it will be necessary to guard against the assumption that both types of service are found in each of the cities.

Less than half of the cities of the third class report special teachers and supervisors of special subjects in any one of the subjects of the elementary school curriculum. These figures, and those for villages as well, indicate the amount of the charge for the city spending the largest amount of money, for the middle case, and for the city spending the smallest amount of money, where only those cities employing this particular type of service are included. It is, therefore, not possible to add the two charges, teachers of special subjects and supervisors of special subjects, and to arrive from such addition at a total charge for services of special teachers and supervisors.

It will be observed from the table that in union free school districts maintaining three-year high schools and in union free school districts maintaining two-year high schools, the middle case expenditures for salaries of regular teachers in elementary grades are relatively high — higher in fact than the corresponding charge in all divisions except first- and second-class cities.

In further explanation of Table 16 it is necessary to call attention to the fact that "supervisors of special subjects" are in some school systems actually special teachers, and that "special teachers" may in some cases do certain supervisory work.

The summary reported above, and the more detailed facts upon which this compilation is based, seem to indicate the desirability of inquiring further into the cost and service rendered by special teachers and by supervisors of special subjects.

Kindergarten Costs

An inquiry was instituted concerning the cost of kindergartens for the years 1920 and 1921. Prior to these years the State Department of Education did not call for a segregation of kindergarten salaries and pupils from those of the eight grades of the elementary school. Even in 1920 and 1921 many of the reports failed to make separate returns for kindergartens. The fact that these classes are conducted in the same building side by side with the lower grades of the elementary school, and under very much the same general conditions, probably leads many school executives to include them in their elementary school reports. A wide variation in city kindergarten costs is indicated in Table 17.

TABLE 17

KINDERGARTEN COSTS — CITIES — STATE OF NEW YORK, 1920, 1921

TOTAL CURRENT EXPENSES, TEACHERS' SALARIES, AND CURRENT EXPENSES OTHER THAN TEACHERS' SALARIES PER PUPIL IN AVERAGE DAILY ATTENDANCE

(NOTE: Arrows indicate middle case in the group and the middle case in the upper and lower half of the group)

TOTAL CURRENT EXPENSES

CITIES	1919–1920		CITIES	1920–1921	
	RANK	AMOUNT		RANK	AMOUNT
First-Class			*First-Class*		
Buffalo	1	$ 75	Buffalo	1	$110
Rochester	2	61	Rochester	2	81
Second-Class			*Second-Class*		
Albany	1	77	Yonkers	1	88
Syracuse	2	70	Albany	2	79
Troy	3	→69	Schenectady	3	→71
Yonkers	4	66	Syracuse	4	48
			Utica	5	46
Third-Class			*Third-Class*		
Olean	1	151	White Plains	1	113
N. Tonawanda	2	95	New Rochelle	2	111
Cohoes	3	88	Mount Vernon	3	104
Oneonta	4	84	Cohoes	4	97
New Rochelle	5	83	Elmira	5	96
Mount Vernon	6	78	Olean	6	92
Canandaigua	7	→75	Mechanicville	7	86
Geneva	8	67	Oneonta	8	→83
Watertown	9	64	N. Tonawanda	9	82
Rensselaer	10	63	Saratoga Springs	10	81
Oswego	11	63	Cortland	11	80
Tonawanda	12	62	Oswego	12	80
Niagara Falls	13	61	Auburn	13	76
Elmira	14	→58	Port Jervis	14	75
Lockport	15	58	Canandaigua	15	→73
Saratoga Springs	16	56	Watervliet	16	71
Port Jervis	17	54	Tonawanda	17	70
Glens Falls	18	51	Lackawanna	18	69
Amsterdam	19	51	Amsterdam	19	67
Poughkeepsie	20	49	Watertown	20	67
Jamestown	21	→48	Geneva	21	66
Little Falls	22	45	Hudson	22	→62
Dunkirk	23	44	Lockport	23	60
Lackawanna	24	42	Jamestown	24	60
Watervliet	25	41	Little Falls	25	59
Rome	26	40	Rome	26	59
Hudson	27	33	Poughkeepsie	27	56
			Dunkirk	28	21

TABLE 17 (*Continued*)

KINDERGARTEN COSTS — CITIES — STATE OF NEW YORK, 1920, 1921

TOTAL CURRENT EXPENSES, TEACHERS' SALARIES, AND CURRENT EXPENSES OTHER THAN TEACHERS' SALARIES PER PUPIL IN AVERAGE DAILY ATTENDANCE

(NOTE: Arrows indicate middle case in the group and the middle case in the upper and lower half of the group)

TEACHERS' SALARIES

CITIES	1919–1920		CITIES	1920–1921	
	RANK	AMOUNT		RANK	AMOUNT
First-Class			*First-Class*		
Buffalo	1	$46	Buffalo	1	$70
Rochester	2	39	Rochester	2	52
Second-Class			*Second-Class*		
Albany	1	45	Yonkers	1	59
Yonkers	2	43	Albany	2	52
Syracuse	3	→43	Schenectady	3	→48
Troy	4	42	Syracuse	4	34
			Utica	5	32
Third-Class			*Third-Class*		
Olean	1	87	White Plains	1	72
New Rochelle	2	51	Elmira	2	67
Cohoes	3	50	New Rochelle	3	66
Mount Vernon	4	48	Mount Vernon	4	65
N. Tonawanda	5	48	Mechanicville	5	55
Canandaigua	6	47	Cohoes	6	55
Elmira	7	→39	Auburn	7	53
Oneonta	8	39	Cortland	8	→52
Rensselaer	9	38	Saratoga Springs	9	49
Oswego	10	38	Canandaigua	10	49
Geneva	11	36	Watervliet	11	49
Saratoga Springs	12	35	Geneva	12	47
Niagara Falls	13	35	Olean	13	46
Watertown	14	→34	Oswego	14	45
Tonawanda	15	33	Port Jervis	15	→44
Glens Falls	16	33	Amsterdam	16	42
Port Jervis	17	32	Tonawanda	17	42
Lockport	18	32	N. Tonawanda	18	42
Jamestown	19	29	Lackawanna	19	41
Poughkeepsie	20	28	Rome	20	39
Amsterdam	21	→27	Watertown	21	39
Dunkirk	22	27	Hudson	22	→39
Watervliet	23	26	Oneonta	23	37
Rome	24	26	Lockport	24	36
Little Falls	25	25	Jamestown	25	35
Lackawanna	26	24	Poughkeepsie	26	35
Hudson	27	23	Little Falls	27	32
			Dunkirk	28	14

TABLE 17 (*Concluded*)

KINDERGARTEN COSTS — CITIES — STATE OF NEW YORK, 1920, 1921

TOTAL CURRENT EXPENSES, TEACHERS' SALARIES, AND CURRENT EXPENSES OTHER THAN TEACHERS' SALARIES PER PUPIL IN AVERAGE DAILY ATTENDANCE

(NOTE: Arrows indicate middle case in the group and the middle case in the upper and lower half of the group)

CURRENT EXPENSES OTHER THAN TEACHERS' SALARIES

CITIES	1919–1920		CITIES	1920–1921	
	RANK	AMOUNT		RANK	AMOUNT
First-Class			*First-Class*		
Buffalo	1	$29	Buffalo	1	$40
Rochester	2	22	Rochester	2	29
Second-Class			*Second-Class*		
Albany	1	32	Yonkers	1	29
Troy	2	27	Albany	2	27
Syracuse	3	→27	Schenectady	3	→23
Yonkers	4	23	Syracuse	4	15
			Utica	5	14
Third-Class			*Third-Class*		
Olean	1	64	Olean	1	46
N. Tonawanda	2	47	Oneonta	2	46
Oneonta	3	45	New Rochelle	3	45
Cohoes	4	38	Cohoes	4	42
Geneva	5	31	White Plains	5	41
New Rochelle	6	32	N. Tonawanda	6	40
Watertown	7	→31	Mount Vernon	7	39
Mount Vernon	8	29	Oswego	8	→34
Tonawanda	9	29	Saratoga Springs	9	32
Canandaigua	10	28	Port Jervis	10	31
Lockport	11	26	Mechanicville	11	31
Niagara Falls	12	26	Elmira	12	29
Rensselaer	13	25	Lackawanna	13	28
Oswego	14	→25	Tonawanda	14	28
Amsterdam	15	23	Cortland	15	→28
Port Jervis	16	21	Watertown	16	27
Poughkeepsie	17	21	Little Falls	17	27
Little Falls	18	21	Amsterdam	18	25
Saratoga Springs	19	21	Canandaigua	19	25
Elmira	20	20	Jamestown	20	25
Jamestown	21	→19	Lockport	21	24
Glens Falls	22	19	Auburn	22	→23
Lackawanna	23	18	Hudson	23	23
Dunkirk	24	17	Watervliet	24	23
Watervliet	25	15	Poughkeepsie	25	22
Rome	26	15	Rome	26	20
Hudson	27	10	Geneva	27	19
			Dunkirk	28	8

The data in the table relate to cities only. Corresponding figures for villages show an even more marked variation, the expenditure per pupil ranging from $21 to $141 in 1920, and from $18 to $372 in 1921. The figures suggest desirability of inquiring into the size of classes and the length of the kindergarten day. Some kindergartens were apparently operated with an average daily attendance so small as to entail a per-pupil cost that is difficult to defend. On the other hand, the average daily attendance was so large in some cases as to indicate either that two half-day sessions were held, or that the teacher was given an unusually heavy load. In these cases, of course, the per-pupil costs were correspondingly low. It does not seem probable, however, that the variation in expenditure can correspond to a variation in the educational opportunity provided or the results secured.

Current Expenses for High Schools

The current expense for high schools, per pupil in average daily attendance, is calculated by using the formula already explained, on page 43. The relation of high school salaries to salaries for the whole school system is used to determine what part of the other non-salary current expenses should be charged to high schools. For example, if high school salaries amount to one-fourth of the total salaries paid by the school system, then one-fourth of all of the other current expenses are charged against high schools. Increases in the current expenses for high schools from 1911 to 1921 appear in Table 18.

Table 18 is to be read as follows: In first-class cities the average current expense for high schools is $89 in 1911; $100 in 1916; and $183 in 1921. The table shows that current expenses for high schools have approximately doubled during the ten-year period in the cities of the state. The average increase for villages of over 4,500 in population is 60 per cent. In the smaller communities of the state, providing from one to four years of high school education, the expenses for high schools are in the extreme cases higher than any of those reported for the cities or larger villages. For the year 1921, in these union school districts, the high cases showed expenses per pupil in average daily attendance as follows: The four-year union schools $1,107; three-year union schools $1,132; two-year union schools $781; and one-year union schools $773.

The variation in high school costs is indicated on Diagram 5.

An analysis of expenses in the union school districts shows that these very high costs are due both to the expenses for teachers' salaries and to other current expenses. These small schools have in many cases very small classes. In the communities showing the highest expense, the charge for salaries of teachers ranges from $520 to $603 per pupil in average daily attendance. In these same communities the current expense, other than

salary, ranges from $243 to $786 per pupil in average daily attendance. An analysis of increases in expenses for high schools as between expenses for teachers' salaries and total current expenses appears in Table 19.

TABLE 18

HIGH SCHOOL COSTS — CITIES, VILLAGES OVER 4,500, AND UNION SCHOOLS — STATE OF NEW YORK, 1911, 1916, 1921

Current Expenses per Pupil in Average Daily Attendance

	1911	1916	1921
First-Class Cities			
Average	$89	$100	$183
High	124	128	212
Low	60	79	161
Second-Class Cities			
Average	69	86	137
High	93	105	165
Low	45	71	114
Third-Class Cities			
Average	67	73	123
High	131	115	332
Low	36	40	68
Villages over 4,500			
Average	84	82	141
High	209	163	268
Low	39	40	76
Union Schools [1]			
Four-Year			
Average			156
High			1107
Low			41
Three-Year			
Average			199
High			1132
Low			34
Two-Year			
Average			246
High			781
Low			88
One-Year			
Average			252
High			773
Low			63

[1] The figures for Union Schools were available only for the years 1920 and 1921.

Table 19 is to be read as follows: Among the first-class cities, the one showing the lowest cost spent $43 per pupil for teachers' salaries in 1911, and $104 for this service in 1921. In the same group the city having the lowest total current expense per pupil in average daily attendance spent $60 in 1911, and $161 in 1921. The per cent increase in teachers' salaries

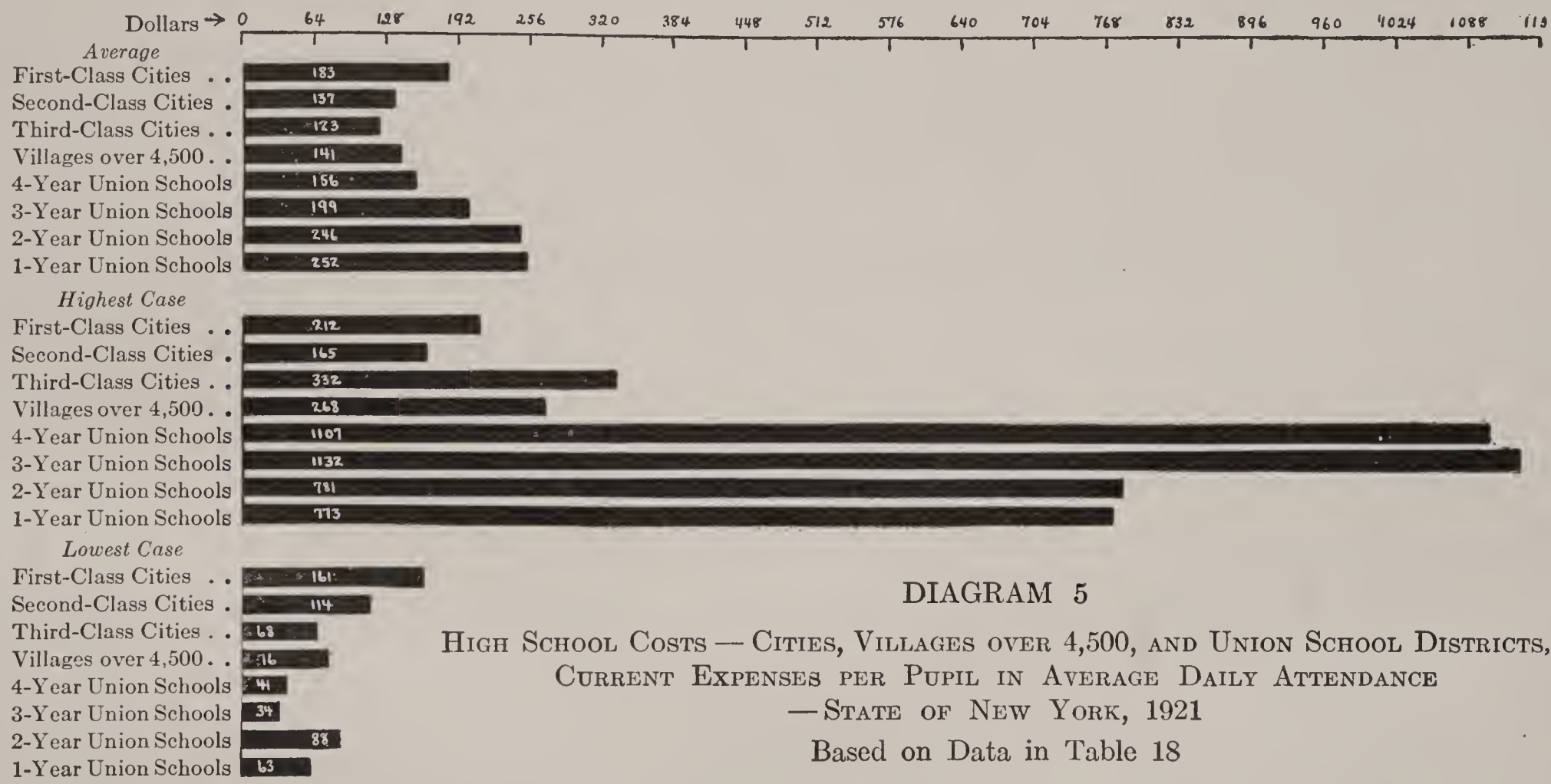


DIAGRAM 5

HIGH SCHOOL COSTS — CITIES, VILLAGES OVER 4,500, AND UNION SCHOOL DISTRICTS, CURRENT EXPENSES PER PUPIL IN AVERAGE DAILY ATTENDANCE — STATE OF NEW YORK, 1921

Based on Data in Table 18

between 1911 and 1921 was 142, while the increase in total current expenses was 168 per cent.

TABLE 19

HIGH SCHOOL COSTS — CITIES AND VILLAGES OVER 4,500 — STATE OF NEW YORK, 1911, 1921

TOTAL CURRENT EXPENSES COMPARED WITH TEACHERS' SALARIES, PER PUPIL IN AVERAGE DAILY ATTENDANCE

	TEACHERS' SALARIES		TOTAL CURRENT EXPENSES		PERCENTAGE INCREASE TEACHERS' SALARIES	PERCENTAGE INCREASE TOTAL CURRENT EXPENSES
	1910–1911	1920–1921	1910–1911	1920–1921		
Low						
1st-Class Cities	$43	$104	$60	$161	142	168
2d-Class Cities	36	77	45	114	114	153
3d-Class Cities	24	38	36	68	58	87
Villages over 4,500	26	43	39	76	65	95
Middle Case						
1st-Class Cities	64	132	82	175	106	113
2d-Class Cities	51	87	66	130	71	97
3d-Class Cities	41	70	59	113	71	92
Villages over 4,500	45	84	77	125	87	62
High						
1st-Class Cities	101	134	124	212	33	71
2d-Class Cities	72	109	93	165	51	77
3d-Class Cities	77	196	131	332	155	153
Villages over 4,500	137	163	209	268	19	28
Number of Cases						
1st-Class Cities	3	3				
2d-Class Cities	7	7				
3d-Class Cities	38	49				
Villages over 4,500	27	56				

The table shows that in most of the cases teachers' salaries increased less rapidly than all current expenses. The same conditions which called for the increases in teachers' salaries apparently increased the cost of the other services and supplies used in high schools.

The wide variation in current expenses of high schools suggests the advisability of careful inquiry, not only as to the excessive costs found in some of the smaller communities, but also as to the quality of the opportunities provided in those schools showing the lowest cost. It is also reasonable to ask whether the educational facilities furnished by the expensive schools could be obtained at a more reasonable cost. There would seem to be some possibility of effecting economy through consolidation.

Some light is thrown upon the variation in the expenses for high schools by an analysis of the expense involved in teaching various subjects.

In many cases the expense per pupil in average daily attendance is partially explained by the teaching of certain subjects in which very few pupils are enrolled. Table 20 shows some of the variations which occur.

TABLE 20

HIGH SCHOOL COSTS — CITIES, VILLAGES OVER 4,500, AND UNION SCHOOL DISTRICTS — STATE OF NEW YORK, 1921–1922

SALARIES OF REGULAR HIGH SCHOOL TEACHERS BY SUBJECT AND YEAR OF COURSE,[1] PER PUPIL IN AVERAGE DAILY ATTENDANCE

SUBJECTS	YEAR IN HIGH SCHOOL	ALL CITIES		VILLAGES OVER 4,500		4-YEAR UNION SCHOOLS	
		Middle Case	Limits within Which Middle 50% of Cases Fall	Middle Case	Limits within Which Middle 50% of Cases Fall	Middle Case	Limits within Which Middle 50% of Cases Fall
1. English	I	$11	$ 6–16	$ 8	$ 4–14	$ 9	$ 4–15
2. English	IV	14	9–19	15	11–19	20	13–31
3. Latin	I	14	11–18	13	7–19	14	9–18
4. Latin	IV	36	24–56	40	19–59	78	47–133
5. French	I	15	12–18	15	10–19	18	13–27
6. French	III	20	15–27	27	18–38	40	27–70
7. Elementary Algebra		14	11–17	13	8–17	14	8–18
8. Solid Geometry		22	16–32	40	32–57	59	45–100
9. History	A	12	6–18	8	4–14	14	9–19
10. History	C	14	10–17	14	9–30	21	14–35
11. Chemistry		22	11–29	22	16–28	21	14–30
12. Physics		20	13–28	25	18–32	30	19–49
13. Home Economics	I	23	13–30	18	13–37	21	14–32
14. Home Economics	III	25	15–38	18	14–30	29	16–52
15. Elementary Drawing		14	8–18	12	5–17	14	7–23
16. Intermediate Drawing		20	14–30	17	[2]	20	8–55
17. Bookkeeping	I	17	12–23	17	12–27	27	17–42
18. Stenography	I	17	13–29	19	4–30	31	18–46
19. Stenography	II	26	18–35	22	15–50	50	29–105

[1] The number of cases varies in each subject and in each class of district.
[2] Too few cases to make limits significant.

It should be noted that all the subject-cost figures on high schools are only translations of the teacher's time schedule into dollars. These figures measure in money terms the relative weight given to different subjects, and the number of children per class or section in a subject. The cost of the subjects will vary largely as the time devoted to them varies. Reducing the time devoted to a high school subject, or even eliminating it from the curriculum, will seldom reduce noticeably the total high school cost. For the high school students have elections and must take a required number of units per year. Dropping one subject merely means

that they must secure an equivalent credit for work in some other subject that will cost the district about as much.[1] *Per-pupil costs in any subject will of course be reduced by any increase in the number of pupils per teacher, per class or section in such subject.*

The first line of Table 20 is to be read as follows: When expenditures for the teaching of first-year English were calculated, the cost in the middle case city was $11 per pupil, while costs for the middle fifty per cent of the cities range from $6 to $16 per pupil. In like manner, for villages, the cost of the middle case is $8, and the limits within which the middle fifty per cent fall are $4 and $14. For four-year union schools the middle case is $9, and the limits within which the middle fifty per cent fall are $4 and $15. If the extreme cases were reported, they would show much greater variability. In some of the smaller high schools it costs more than $150 per pupil to teach certain of the subjects offered.

Evening Schools — Adult Education

In many communities throughout the State of New York evening schools are established for those not attending day schools. This part of the state's educational program is sometimes referred to as "adult education."

Data were obtained through the State Department of Education for four types of evening school work: (1) immigrant education, (2) grammar-grade education, (3) industrial education, and (4) home-making education. Immigrant education includes classes in elementary English and American citizenship for persons 16 years of age and over. Grammar-grade education includes classes in which the work is equivalent to that in grades five to eight inclusive in the day schools. These classes are often preparatory to entrance to evening high schools. The industrial and home-making classes include non-vocational as well as vocational work.

The data here presented include returns from 1,094 classes in 75 different communities, with a total average attendance per session in the classes reported of 13,400.[2] The sampling includes all sizes and types of cities and villages and a few rural communities. The individual class [3] was the basis upon which the data were compiled, and the study sought to determine the unit clock-hour cost. Upon this basis estimates may be made of the probable cost of work in these and closely related fields when this

[1] According to unpublished results from the Illinois division of the Educational Finance Inquiry, the reduction in cost of current expenses attainable through reducing the curricula of twelve large high schools to four subjects, would be comparatively little. This possible reduction ranged from 18.79 per cent in one school to .42 of one per cent in another school, the median for the twelve schools being 8.79 per cent and the average 8.55 per cent.

[2] It was impracticable to ascertain the total attendance of the evening schools for the whole state.

[3] When information was lacking regarding each class separately, the material was rejected, unless the length and number of sessions in the classes reported in a group were identical.

part of the educational program is extended. The unit cost was determined according to the following formula:

$$\frac{\text{Amount paid to teachers}}{\left\{\begin{matrix}\text{Number of}\\ \text{sessions}\end{matrix}\right\} \times \left\{\begin{matrix}\text{Number of hours}\\ \text{per session}\end{matrix}\right\} \times \left\{\begin{matrix}\text{Average attendance}\\ \text{per session}\end{matrix}\right\}} = \begin{matrix}\text{Cost per pupil}\\ \text{clock hour}\end{matrix}$$

Unit costs so determined are reported in the table given in footnote.[1]

It will be observed that the cost is figured only upon the teachers' salary. If it were possible to obtain the complete cost, there would probably need to be added about 33 per cent to the per-teacher cost. This estimate is based upon the fact that in an analysis of the budget for day schools approximately 75 per cent of the cost is chargeable to the salaries of teachers. Table 21 gives the salary cost of instruction per student per clock hour in four of the home-making courses.

In the column headed " Cost per Student per Clock Hour " will be found a measure which indicates roughly the relative cost of maintaining the various courses. The variation among the several communities of the state appears in that part of the table which gives the " Range of Unit Costs in Different Communities." These variations, as indicated in the table, show minimum costs as low as 6.1 cents per hour per student, and a maximum of 31.2 cents per student clock hour.

Similar calculations were made with respect to the expenses for salaries for instruction in industrial education in evening schools, as shown in Table 22.

The salary cost per student per clock hour when calculated upon the basis of the whole number of classes and of students enrolled ranges from 13.6 cents per student clock hour in woodworking to 16.2 cents per student clock hour in machine shop work. It will be observed that these costs are slightly higher than those involved in the home-making courses, and that the variations among them are greater. The lowest cost reported

[1] PER-PUPIL CLOCK-HOUR COSTS, TEACHERS' SALARIES ONLY, 1921

Computed on the basis of a five-hour day with 200 days of school for first- and second-class cities, 190 days for third-class cities, and 180 days for all other communities.

	Elementary Schools	Secondary Schools
Cities		
First-Class	6.3 cents	12.4 cents
Second-Class	5.4 cents	9.3 cents
Third-Class	4.3 cents	7.9 cents
Villages over 4,500	4.5 cents	10.0 cents
Union Schools		
Four-Year	4.5 cents	11.1 cents
Three-Year	5.4 cents	13.1 cents
Two-Year	4.3 cents	17.7 cents
One-Year	5.1 cents	17.2 cents

TABLE 21

COMMUNITIES OF STATE OF NEW YORK — YEAR ENDING JULY 31, 1922

SALARY COSTS OF INSTRUCTION IN EVENING HOME-MAKING EDUCATION PER STUDENT PER CLOCK HOUR

SUBJECTS	NUMBER OF COMMUNITIES	NUMBER OF CLASSES	AVE. ATTENDANCE PER SESSION	AGGREGATE STUDENT HRS. OF ATTENDANCE (CLOCK HRS.)	TOTAL PAID IN SALS. OF TEACHERS	COST PER STUDENT PER CLOCK HOUR	RANGE OF UNIT COSTS IN DIFFERENT COMMUNITIES			
							Min.	Median	Max.	Middle 50 Per Cent
Sewing	11	74	939.33	112,190.80	$14,157.50	$.126	$.073	$.124	$.312	$.116-.141
Dressmaking	12	69	974.22	114,934.95	14,127.50	.123	.061	.114	.186	.097-.140
Millinery	16	53	729.29	84,395.05	9,941.00	.118	.083	.124	.307	.100-.139
Cooking	14	30	392.69	33,067.98	4,447.00	.134	.083	.146	.241	.107–.173
Total	—	226	3035.53	344,588.78	$42,673.00	$.124	$.061	$.128	$.312	$ 098–.146

TABLE 22

EVENING INDUSTRIAL EDUCATION COSTS — SELECTED COMMUNITIES OF STATE OF NEW YORK — YEAR ENDING JULY 31, 1922

SALARY COSTS OF INSTRUCTION IN EVENING INDUSTRIAL EDUCATION PER STUDENT PER CLOCK HOUR

SUBJECTS	NUMBER OF COMMUNITIES	NUMBER OF CLASSES	AVE. ATTENDANCE PER SESSION	AGGREGATE STUDENT HRS. OF ATTENDANCE (CLOCK HRS.)	TOTAL PAID IN SALS. OF TEACHERS	COST PER STUDENT PER CLOCK HOUR	RANGE OF UNIT COSTS IN DIFFERENT COMMUNITIES			
							Min.	Median	Max.	Middle 50 Per Cent
Automobile education (Shop and theory)	7	15	209.75	31,543.15	$4,375.00	$.139	$.089	$.174	$.196	$.146–.189
Machine shop	11	52	592.20	85,512.03	13,884.00	.162	.054	.169	.341	.142–.203
Electrical education	13	35	516.85	54,956.15	8,639.50	.157	.100	.184	.667	.152–.211
Woodworking	14	58	765.82	99,889.04	13,590.00	.136	.060	.155	.304	.135–.173
Total	—	160	2084.62	271,900.37	40,488.50	.149	.054	.169	.667	.142–.194
Related subjects (Related to Machine, Elec. and Woodworking, Drawing, Science, and Mathematics)	28	100	1178.41	144,293.65	21,092.50	.146	.071	.164	.417	.134–.188
Grand Total	—	260	3263.03	416,194.02	$61,581.00	$.148	$.054	$.169	$.667	$.139–.195

is 5.4 cents per student clock hour, while the highest cost shown is 66.7 cents per student clock hour.

The salary charge for instruction in the four types of evening school work — immigrant education, grammar-grade education, industrial education, and home-making education — appear in Table 23.

These totals for each type of education are significant in showing that home-making courses are operated at the least expense, immigrant education comes second, grammar-grade education third, and industrial education highest. The range of unit costs among the different communities varies all the way from 3.3 cents to 41.7 cents per student clock hour.

For the City of New York, the 1921 teachers' salary cost per student clock hour was 19 cents for evening high and evening trade schools, and 9.3 cents for evening elementary schools.

Special Education

It was not possible, from the reports available in the state office, to segregate the costs of various types of special work. These have been included in the expenses for elementary and for secondary schools, in connection with the regular work of which schools, special classes for the physically handicapped, the backward, and the delinquent have been conducted, and will doubtless continue to be so conducted. Since the total cost of these special classes forms only a small fraction of the aggregate school expense, it will, for practical purposes, be safe to assume that their costs will increase at approximately the same rate as total school costs.

Current Expenses for Higher Education

Higher education in the State of New York is provided primarily by non-tax-supported institutions. Of the $25,056,022 spent for higher education in the state during 1920, $22,024,306 was derived from private sources. The costs of higher education in the State of New York for 1910, 1915, and 1920 are given in Table 24. These figures include the expenses for private institutions and for public institutions other than those for training teachers, and the sums made available by the state for scholarships.[1]

[1] It is interesting to note that larger numbers of students, attending universities, colleges, technical and professional schools, go from the State of New York to institutions located in other states than come from other states to attend higher educational institutions located within the State of New York. The facts as reported by Mr. George F. Zook in his "The Residence of Students in Universities and Colleges," United States Bureau of Education, Bulletin, 1922, No. 18, p. 9, are as follows:

Number of students whose residence is in the State of New York attending universities, colleges, technological, and professional schools in the United States, 1921	55,130
Number of students whose residence is in the State of New York attending institutions located within the state	40,036
Number of students whose residence is in the State of New York attending institutions located outside the state	15,094
Students attending universities, colleges, technological, and state professional schools within the State of New York, 1921	49,282
Students residing in New York attending institutions located in the state	9,246
Excess of students leaving the State of New York to attend higher educational institutions over those coming into the state for this purpose	5,848

TABLE 23

EVENING SCHOOL COSTS — SELECTED COMMUNITIES OF STATE OF NEW YORK — YEAR ENDING JULY 31, 1922

Salary Costs of Instruction in Evening Schools per Student per Clock Hour

Types of Education	Number of Communities	Number of Classes	Ave. Attendance per Session	Aggregate Student Hrs. of Attendance (Clock Hrs.)	Total Paid in Sals. of Teachers	Cost per Student per Clock Hour	Range of Unit Costs in Different Communities			
							Min.	Median	Max.	Middle 50 Per Cent
Immigrant Education .	65	476	5611.45	651,755.60	$82,757.80	$.127	$.033	$.150	$.403	$.107–.236
Grammar-Grade Education	18	37	412.10	51,571.55	7,133.17	.138	.063	.158	.348	.120–.220
Industrial Education .	30	300	3603.53	458,383.97	69,888.50	.152	.071	.173	.417	.139–.185
Home-making Education	26	281	3773.29	427,452.64	51,860.50	.121	.068	.118	.206	.104–.136
Total	75[1]	1094	13400.37	1,589,163.76	$211,639.97	$.133	$.033	$.145	$.417	$.113–.216

[1] This is the number of individual communities, some communities having more than one of the four types of education.

TABLE 24

HIGHER EDUCATION COSTS AND PROPERTY VALUATIONS — STATE OF NEW YORK, 1910, 1915, 1920

EXPENSES FOR HIGHER EDUCATION, AND THE VALUE OF PROPERTY OWNED AND USED BY HIGHER EDUCATION INSTITUTIONS (PRIVATE INSTITUTIONS, PUBLIC INSTITUTIONS OTHER THAN TEACHER TRAINING INSTITUTIONS, AND STATE SCHOLARSHIPS)

	Total Expenditures	Current Expenses			Capital Outlays		Value of Property	
		Total	State Aid	Salaries for Instruction	Total	Allowance from State	Total Used for Educational Purposes	Total Owned
1. Total Spent in State								
1909–10	$13,025,106	$10,631,064	$ 324,893	$5,139,675	$2,394,042	$163,097	$60,832,254	$117,177,516
1914–15	16,162,516	14,681,575	839,102	7,540,342	1,480,941	276,545	84,086,107	162,961,750
1919–20	25,056,022	23,399,689	1,327,460	9,484,885	1,656,333	20,767	100,329,423	204,398,941
2. Total Spent from Private Sources								
1909–10	11,734,535	9,509,079	—	4,538,657	2,225,456	—	53,887,055	110,232,317
1914–15	13,942,866	12,794,459	—	6,913,990	1,148,407	—	75,511,988	154,387,631
1919–20	22,024,306	20,388,740	—	8,546,055	1,635,566	—	90,806,648	194,876,166
3. Total Spent from Public Sources								
1909–10	1,290,571	1,121,985	324,893	601,018	168,586	163,097	6,945,199	6,945,199
1914–15	2,219,650	1,887,116	839,102	626,352	332,534	276,545	8,574,119	8,574,119
1919–20	3,031,716	3,010,949	1,327,460	938,830	20,767	20,767	9,522,775	9,522,775
4. Total Public from State								
1909–10	490,618	327,521	324,893	—	163,097	163,097	11,532	11,532
1914–15	1,343,693	1,067,148	839,102	—	276,545	276,545	—	—
1919–20	1,760,057	1,739,290	1,327,460	1,830	20,767	20,767	—	—
5. Total Public from Local Sources *								
1909–10	799,953	794,464	—	601,018	5,489	—	6,933,667	6,933,667
1914–15	875,957	819,968	—	626,352	55,989	—	8,574,119	8,574,119
1919–20	1,271,659	1,271,659	—	937,000	—	—	9,522,775	9,522,775
* In New York City								
College of the City of New York								
1909–10	$619,449	$613,960	—	$440,350	$5,489	—	$6,500,000	$6,500,000
1914–15	507,483	451,494	—	296,469	55,989	—	6,571,422	6,571,422
1919–20	812,117	812,117	—	556,535	—	—	7,449,441	7,449,441
Hunter College of the City of New York								
1909–10	180,504	180,504	—	160,668	—	—	433,667	433,667
1914–15	368,474	368,474	—	329,883	—	—	2,002,697	2,002,697
1919–20	459,542	459,542	—	380,465	—	—	2,073,334	2,073,334

While not appearing as a separate item, federal aid is included in the total spent from public sources, to the extent of $68,000 in 1910; $116,587 in 1915; and $352,896 in 1920.

It will be observed that the total spent for higher education within the state has almost doubled in the period from 1910 to 1920, and that the expenditures from private as well as from public sources have also doubled. The amount contributed by the state government to institutions controlled by the state has increased almost three times, while the amount expended from local sources has increased only about sixty per cent.[1]

Training of Teachers in Tax-Supported Institutions

Teachers are trained for service in the State of New York in several different types of institutions. The state maintains one college for the training of teachers and ten normal schools. High school graduation is required for entrance to all of these institutions. The State Teachers College offers a four-year course, and since 1922 the normal schools are offering three-year, instead of two-year, professional courses. There are seven training schools in the larger cities of the state which offer a two-year professional course, and require the completion of a four-year high school course for entrance. The work done in them is entirely comparable to that in the state normal schools. In 1921 forty-three training classes, offering a one-year course based upon high school graduation, were maintained by local school systems with aid from the state.

Beside these facilities, special courses in preparation for teaching are offered in the College of the City of New York and also in Hunter College, the woman's college maintained by the city. The state does not contribute to the expenses for maintenance of these institutions, but it does grant university scholarships of $100 annual value, some of which are used by students in the State College for Teachers.

The aggregate expenses for the training of teachers in the State of New York for the year 1921 appear in Table 25.

Teachers' Salaries

As noted in the Introduction, because of the extensive work of the committees of the National Education Association, the Educational Finance Inquiry Commission did not feel justified in expending its time or resources on an independent study of teachers' salaries. But since teachers' salaries constitute approximately seventy-five per cent of current expense for schools in the larger communities, and even more in the smaller ones, and since there had been throughout the state so much public discussion of the teacher salary increases under laws going into effect in 1920 and 1921,

[1] Higher education in the State of New York is provided primarily from private sources and the state is not comparable in its provision for higher education to many of the other states of the Union.

the subject could not be ignored. Accordingly, it seemed advisable to give a brief digest of the present law on teachers' salaries and a summary of the salaries actually paid.

TABLE 25

COST OF TEACHER TRAINING IN TAX-SUPPORTED INSTITUTIONS STATE OF NEW YORK, 1921

CURRENT EXPENSES OF TEACHER TRAINING

INSTITUTION	TOTAL CURRENT EXPENSES
New York State College for Teachers [1]	$ 194,566
College of the City of New York [2]	362,102 [3]
Hunter College [2]	199,670 [4]
488 University Scholarships	48,800
State Normal Schools (two-year course) [1]	1,081,197
Training Schools (two-year course)	383,001 [5]
Training Classes (one-year course)	54,236 [5]
TOTAL	$2,323,572
Total Cost of Education (state and local)	$175,480,003
Percentage of total state and local expenses of education spent on teacher training	1.3

[1] Supported entirely by the state.

[2] Supported by the City of New York.

[3] Calculated as follows: Total salaries, $501,717. In the preceding year salaries made up 68.5 per cent of total current expenses. On that basis total current expenses were $732,434. Total graduates, 267. Graduates prepared for teaching, 132. $\frac{132}{267} \times \$732,434$ equals $362,102. It is assumed that the number of *undergraduates* preparing for teaching is to the total number of *undergraduates*, as the number of *graduates* prepared for teaching is to the total number of *graduates*.

[4] The total salary cost was $422,888. In the preceding year salaries made up 82.8 per cent of total current expenses. On that basis total current expenses were $510,734. There were in all 243 graduates. Of these 95 were prepared to teach as recognized by eligibility to the College Graduate Professional Provisional Certificate. The figure given is $\frac{95}{243}$ of the total current expenses.

[5] Salaries of teachers only.

The law lays down minimum salary schedules for the different types of communities and for various kinds of positions in each community. These schedules as a rule prescribe for each type of position a minimum initial salary, a minimum annual increment for satisfactory service, and a minimum number of annual increments. Naturally all these items are numerically larger as the communities increase in size. Each community then proceeds through its school board to make its salary schedule conform to the minimum requirements for a community of its class. Table 25A gives a convenient digest of the minimum requirements for all classes of positions in all kinds of communities.

To give an accurate picture of the teachers' salaries actually paid is a difficult matter. Such salaries depend upon the extent to which the various communities exceed the state minimum requirements and upon the proportion of inexperienced teachers employed. When the Headquarters Staff sought data on present teachers' salaries in the state, the

TABLE 25A

DIGEST OF TEACHERS' MINIMUM SALARY LAW — STATE OF NEW YORK

According to Education Law, Revised to July 1, 1923 (Article 33-b)

	Minimum Initial Salary	Minimum Annual Increment	Minimum Number of Annual Increments	Minimum Salary after Securing Minimum Number of Annual Increments
I. *City of New York*				
Elementary Schools				
Kindergarten to Six-B Classes	$1500	$125	11	$2875
Seven-A to Nine-B Classes	1900	150	9	3250
Teachers of Special Subjects	1900	150	9	3250
Assistants to Principals (Heads of Departments)	3400	100	2	3600
Principals of Elementary and All Special Schools	3750	250	4	4750
Teacher Clerks	1200	100	6	1800
High Schools and Training Schools				
Assistant Teachers	1900	150	12	3700
First Assistants	3200	200	5	4200
Clerical, Laboratory, Library, etc.	1400	100	10	2400
Principals	5500	250	2	6000
Colleges				
Fellows	500	[1]	[1]	1000 [5]
Tutors	1000			2000 [5]
Clerical, Laboratory, Library, etc.	1400			2400 [5]
Instructors	2000			3500 [5]
Assistant Professors	3000			4500 [5]
Associate Professors	4500			5500 [5]
Lecturers	2000			5000 [5]
Curator and Auditor	4000			6000 [5]
Professors	5000			8000 [5]
Dean, Librarian, Secretary of Faculty	200 [2]			500 [2,5]
President	10,000			12,500 [5]
II. *Cities of First Class — Population Less than Million*				
Elementary Schools				
Kindergarten to Eighth Grade	[3]	100 [4]	8	
Junior High Schools	1600	100 [4]	8	2400
High Schools	[3]	100 [4]	8	

[1] Information on Minimum Annual Increment and Minimum Number of Annual Increments not given in State Education Law.

[2] This is in addition to the salaries of their regular rank.

[3] Four hundred dollars in advance of salary set by local school board on March 1, 1920.

[4] Annual increment not less than $100, nor less than one-eighth of the difference between the minimum and maximum compensation.

[5] These figures are for maximum salaries. They are the only ones available.

TABLE 25A (*Continued*)

DIGEST OF TEACHERS' MINIMUM SALARY LAW—STATE OF NEW YORK

According to Education Law, Revised to July 1, 1923 (Article 33-b)

	Minimum Initial Salary	Minimum Annual Increment	Minimum Number of Annual Increments	Minimum Salary after Securing Minimum Number of Annual Increments
III. *Cities of Population of Fifty Thousand and Less than One Hundred Fifty Thousand*				
Elementary Schools				
Kindergarten to Eighth Grade	$1100	$75	8	$1700
High Schools	1300	75	8	1900
IV. *Cities of Population Less than Fifty Thousand*				
Elementary Schools				
Kindergarten to Eighth Grade	1000	75	8	1600
High Schools	1150	75	8	1750
V. *Union Free Schools*				
Elementary Schools				
Kindergarten to Eighth Grade	800	75	8	1400
High Schools	900	75	8	1500
VI. *Rural and All Other Districts*	720[1]			

[1] Education Law, Sec. 491–A, Sub. Sec. 3.

State Education Department was found to have copies of schedules actually in operation and a record of the salary paid each teacher in the public schools of the state. But the Department had not found it possible to work up summaries to show how the schedules in general exceeded the state minimum requirements, or how many teachers received any given salary. In this situation where the data in these two particulars could not have been secured save with very great labor and expense, all that could be done was to utilize the most recent data published by the National Education Association. These data do not include all the teachers of any class in New York or in other states. But they do include sufficient cases to give a fair sampling, as a careful perusal of the details in the Association's report will show. The results from all the teachers would probably not have been materially different from the results obtained. Unfortunately the data on New York are classified by the usual census size groupings, which do not at all fit the New York State legal classifications of cities and villages. The data are for the year 1922–1923, but, as most of the schedules went into full operation in 1920 and 1921, the figures probably represent the present situation accurately.

Table 25B gives a summary of the salaries actually paid in 1922–1923 to the village and city teachers of the state, by bringing together figures for the median (middle-case) salaries for various positions in communities of different sizes from 2500 to over 100,000 population. All the figures are taken directly from Tables 57 to 61 of "Teachers' Salaries and Salary Trends in 1923," the report of the Salary Committee of the National Education Association, published by the Association in July of 1923. This bulletin in addition has complete distribution tables (Numbers 62–64), showing respectively how many salaries of each size were paid in the districts reporting for elementary teachers, high school teachers, and supervising elementary school principals, irrespective of the kind of district they were in.

TABLE 25B

MEDIAN (MIDDLE-CASE) SALARIES ACTUALLY PAID THE PUBLIC SCHOOL TEACHERS AND PRINCIPALS IN CITIES AND VILLAGES STATE OF NEW YORK, 1922–1923 [1]

(The * before an item indicates that this salary is below the corresponding median salary for the United States as a whole.)

	In Cities and Villages with a Population of				
	2500 to 5000	5000 to 10,000	10,000 to 30,000	30,000 to 100,000	Over 100,000
Kindergarten Teachers	*$1150	$1333	*$1313	$1559	$2187
Elementary Teachers	1259	1354	1344	1551	2584
Junior High School Teachers	1416	1621	1442	*1550	3236
Senior High School Teachers	1522	1645	*1628	*1880	3517
Special Class Teachers	*1550	*1266	*1525	*1617	2631
School Nurses	1500	1600	*1400	*1367	*1414
Elementary Principals, All	1583	*1492			
Elementary Principals Supervising	2525	2100	*1940	2388	4638
Elementary Principals Non-supervising			1723	2450	3619
Junior High School Principals	1950	2000			4633
Senior High School Principals	2100	*2400	*2950	4100	6500

[1] Adapted from Tables 57–61 of "Teachers' Salaries and Salary Trends in 1923," Report of the Salary Committee of the National Education Association, July, 1923.

Table 25C gives the median salaries actually paid different kinds of rural teachers and principals in 1922–1923 in the state, with similar figures for easy comparison with the states of Connecticut, Massachusetts, and New

Jersey. These figures are from Table 65 of the National Education Association's bulletin referred to above.

TABLE 25C

MEDIAN (MIDDLE-CASE) SALARIES OF RURAL PUBLIC SCHOOL TEACHERS AND PRINCIPALS — STATES OF CONNECTICUT, MASSACHUSETTS, NEW JERSEY, AND NEW YORK, 1922–1923[1]

(The number of *'s before any New York salary item indicates the times such salary is exceeded by the corresponding figures for the three other states.)

	Teachers in					Principals in		
	One-Teacher Schools	Two-Teacher Schools	Three or More Teacher Schools in Open Country	Consolidated Schools	Three or More Teacher Schools in Villages and Towns	Elementary Schools Only	Organized High Schools Only	Schools Having Both Elementary and High School Pupils
Connecticut .	$1008	$1088	$1067	$1719	$1254	$2250	$2463	$1800
Massachusetts	887	1046	1063	1248	1122	1300	1757	1650
New Jersey .	1037	1165	1231	1215	1414	1819	2550	2001
New York .	*** 870	***1018	1320	*1271	**1218	**1443	***1510	**1767

[1] Adapted from Table 65 of "Teachers' Salaries and Salary Trends in 1923," Report of the Salary Committee of the National Education Association, July, 1923.

All of the tables of the National Education Association data cited give figures for the states individually and for the country as a whole. From these it is possible for the interested reader to gain a clear idea as to how salaries for teachers in the State of New York compare with those in other states. It might be expected at first thought that teachers' salaries in a wealthy state like New York would naturally exceed those for the country as a whole, which include the poorer states. But as the starred figures of Table 25B indicate, New York in a surprising number of instances does not have a median salary equal to the median salary for the country as a whole. The complete distribution tables show that median salaries for both elementary and high school teachers in the state outside of the City of New York are distinctly below the salaries for such positions in the United States as a whole. The median salaries for rural teachers for the country as a whole would be meaningless because the remainder of the country is in general much more rural than is the State of New York. But when states like Connecticut, Massachusetts, and New Jersey are taken, states with which it would seem perfectly fair to compare New York, substantially the same lower figures for New York are found. As shown in Table 25C, there is only one kind of rural teaching position in the state in which the teachers' median salary is not exceeded by the median salary for such work in at least one of the other three states.

The situation in a nutshell is this: While the salaries for certain kinds of positions in certain types of communities and for the larger cities are on the whole above typical salaries for such work in the entire country, teachers' salaries at present in the state are in general distinctly below what might be expected of the State of New York's resources. The available facts indicate that the public school teachers outside of the largest cities are not so well paid as they are in a number of other states with which New York would naturally be compared.

CHAPTER V

PLANT COSTS OF PUBLIC EDUCATION

In Chapter III (pages 31–36) aggregate figures for the plant costs of the tax-supported school system are given in two forms — as cash payments and as accrued economic charge. The present chapter records the data which underlie those aggregates, explains the methods of computation, and draws attention to certain important deductions which flow from the figures when studied in detail.

Plant costs are often neglected in studies of educational finance. Students are apt to restrict their field of study to current expenses, ignoring the costs of plant and permanent equipment. This is done apparently on the theory that such costs are insignificant in amount, that they are abnormal in the sense that they recur infrequently, and that any depreciation in buildings is offset by appreciation in the value of school sites. As a matter of fact, however, these costs are substantial in amount and, except in small districts, tend to be constant rather than sporadic. The data indicate that in the City of New York, at least, there is no foundation for the belief that the appreciation in land values is substantial enough to offset depreciation in structures. In determining the charge to the community, moreover, an appreciation of the value of a school site is not pertinent if an equal or higher price must be paid for a substituted site yielding the same service. Furthermore, it may be strongly argued that a valuable school site is more often than not a liability. A part of the capital cost is the ground rent (imputed economic cost). When a school building is occupying a valuable site, it is using a portion of the community assets which, if in private hands, would contribute to the popular income, and it is often thus depriving the city of large sums in taxes.

The varying practice with respect to insurance is a disturbing factor in the problem of separating current expenses from plant costs. In those cases in which school buildings have been insured, the premiums have been charged to current expenses, but in the larger cities the common practice has been not to insure the buildings. In all cases it has been the practice to charge to capital outlay the entire cost of reconstruction of a building destroyed by fire whether insured or not.

Plant Costs — Cash Disbursements

As has been explained in Chapter III (page 38) the figures presented under the heading "Cash Disbursements" represent the bookkeeping facts of money actually paid out of the public treasury for the various items. No detailed explanation of their character is necessary, other than that given in the earlier chapter, but it is desirable to present them in somewhat greater detail at this place. Table 26 classifies cash disbursements so as to exhibit capital outlays for common schools (including high schools), normal schools, and colleges, and for general state administration. The outlay under the last of these three headings represents the capital cost of the elaborate building occupied by the State Department of Education in Albany.

TABLE 26

PUBLIC EDUCATION — CASH DISBURSEMENTS FOR CAPITAL OUTLAY, 1910–1922

Classified by Common Schools (Including High Schools), Normal Schools and Colleges, and General Administration [1]

For Years Ending July 31

State and Local — State of New York

Year	Common Schools (Including High Schools)	Normal Schools and Colleges	General State Administration	Total
1910	$ 7,130,568	$ 112,341	$ 680,243	$ 7,923,152
1911	7,425,306	176,316	960,797	8,562,419
1912	8,336,479	342,230	1,083,450	9,762,159
1913	9,161,009	588,117	989,652	10,738,778
1914	11,922,121	548,945	139,566	12,610,632
1915	11,818,598	338,688	87,515	12,244,801
1916 [2]	6,818,345	279,856	19,213	7,117,414
1917	7,601,691	259,741	10,815	7,872,247
1918	7,564,886	387,455	4,390	7,956,731
1919	8,064,969	264,305	7,867	8,337,141
1920	9,694,554	298,467	3,641	9,996,662
1921	20,652,914	129,544	3,680	20,786,138
1922	29,432,748	597,201	3,934	30,033,883
City of New York Only				
1910	$ 4,171,189			$ 4,171,189
1915	6,598,465	$55,989		6,654,454
1920	2,863,398			2,863,398
1921	9,559,011			9,559,011
1922	13,857,989			13,857,989

[1] See notes to Table 2, p. 33.

[2] The state's fiscal year was changed at this time, so that certain of the state expenses were for a nine-month rather than a twelve-month period.

The cash disbursements for interest payments set forth in Table 2, on page 33, are credited in the accounts entirely to common schools (including high schools). The total of $30,033,883 represents, then, the amount actually invested in new school sites, plant, and equipment in the single year 1922. In view of the inadequacy of the physical equipment at present available (see page 91), it is probable that the community must expect to provide as much or more each year for some time to come.

Plant Costs — Annual Accrued Economic Cost

Aggregate figures are presented in Chapter III (see page 35) representing the annual depreciation of school plant and equipment, and the annual interest value of the capital tied up in school property. As these figures are estimates rather than true bookkeeping figures, it is necessary to explain the manner in which they are calculated.

The first step necessary in figuring the yearly depreciation of school buildings is the determination of a fair figure to represent the life of school buildings. Once this figure has been chosen, the assumption that the corresponding fraction of the original cost is lost each year on the average would be justified.

In the light of competent advice, it is assumed that the depreciation of school buildings throughout the state should be figured on the basis of an estimated life of 75 years.[1] On this assumption a school building loses $\frac{1}{75}$ or $1\frac{1}{3}$ per cent, of its original cost value each year. Since available figures on the valuation of school buildings in the State of New York are in terms of "present values," rather than original cost figures, it becomes necessary so to relate the present value of many buildings of widely-varying ages to their original costs, that a percentage of depreciation in terms of present value may be determined. A building fifty years old has already lost $\frac{50}{75}$ or $\frac{2}{3}$ of its original value, and its present value is, then, the remaining $\frac{1}{3}$ of its original value. During the coming year it will lose another $\frac{1}{75}$ of its original value, or — what is the same thing — $\frac{1}{25}$ of the present value as entered on the school records.

To determine a figure for the percentage of depreciation in the present

[1] The first method of attacking this problem was to secure the opinion of as many specialists in the field of educational administration as was possible. The estimates of these men as to the life of school buildings ranged from 50 to 100 years with the central tendency strongly marked at 70 to 75 years. In the absence of definite statistical facts establishing the average life of school buildings, the opinion of these specialists has been considered of great importance in arriving at the best possible figure.

The other method was to place before an accepted real estate authority complete facts with regard to the ages and types of construction of the school buildings in the State of New York and to secure from him an estimate as to the probable life of each type of building. The person invited to act in this capacity was Mr. Frank Lord, of the Cross and Brown Company, who, through long experience in this field, has established an enviable reputation as a competent judge of the value, length of life, and rate of depreciation of buildings. With all the available facts concerning the school buildings of the state before him, Mr. Lord reached the conclusion that the best figures to express the length of life of school buildings in the State of New York would vary from 50 to 75 years with the location of buildings and type of construction. He ratified the use of 75 years as a single figure for the life of school buildings.

TABLE 27

AGE OF SCHOOL BUILDINGS — CITY OF NEW YORK, 1800–1922

	Total	1800 to 1805	1806 to 1810	1811 to 1815	1816 to 1820	1821 to 1825	1826 to 1830	1831 to 1835	1836 to 1840	1841 to 1845	1846 to 1850	1851 to 1855	1856 to 1860	1861 to 1865	1866 to 1870	1871 to 1875	1876 to 1880	1881 to 1885	1886 to 1890	1891 to 1895	1896 to 1900	1901 to 1905	1906 to 1910	1911 to 1915	1916 to 1920	1921 to 1922	Under Construction
Manhattan . . .	145					1		1	1	7	1	4	10	4	9	6	9	9	7	17	25	17	12	5			
Bronx	62									1			2		1	2		1	6	4	14	9	3	10	3	6	
Brooklyn . . .	189		1								4	2	9	4	13	10	7	14	19	15	16	21	24	20	1	4	5
Queens	101								1				1	1		3	5	2	4	20	26	7	10	14	5	1	1
Richmond . . .	37					1									1	1	1	2	3	9	7	6	2	3			1
Grand Total . .	534		1			2		1	2	8	5	6	22	9	24	22	22	28	39	65	88	60	51	52	9	11	7

value of the school buildings of a city or state, one must have a single figure to represent the ages of all the buildings in that particular unit. Such a figure was secured for the school buildings of the cities of the State of New York, and another for the rural school buildings, as follows:

The dates of construction of all school buildings being known, these buildings were divided into four quarters on the basis of their ages. For instance, in the City of New York, the oldest quarter of the total number of school buildings was constructed between 1800 and 1883. (See Table 27.) The date of erection of the middle building in the group was then determined, and its age was used to represent the ages of all the buildings constituting this oldest quarter of New York City's school buildings. The date of erection of this middle-case building was 1868. Its age in 1921 was, therefore, 53 years, and the assumption was made that one-fourth of the school buildings of the City of New York were 53 years old.

TABLE 28

SCHOOL BUILDINGS — CITY OF NEW YORK — DATE OF CONSTRUCTION, AND AGE IN 1921, OF CERTAIN TYPICAL BUILDINGS

Age Group	Construction Period	Construction Date of Middle-Case Building	Age in 1921
Oldest quarter	1800–1883	1868	53
Next oldest quarter	1883–1897	1892	29
Third oldest quarter	1897–1906	1900	21
Newest quarter	1906–1921	1912	9

In like manner, as shown in Table 28, the age of the next oldest quarter of New York City's buildings was assumed to be 29 years in 1921. Of the two most recent quarters the ages were determined as 21 and 9 years respectively. Each of these four ages represents the same number of buildings — one-fourth of all the school buildings in the City of New York, and it therefore seems valid to use the average of these four ages as the one figure best representing the age of school buildings in the City of New York.

This figure for 1921 is 28 years (53 plus 29 plus 21 plus 9 divided by 4 equals 28). It may then be assumed that the present value of these school buildings is $\frac{75}{75}$ minus $\frac{28}{75}$, or $62\frac{2}{3}$ per cent of their original value. In 1922 each of these buildings would be one year older and would therefore have lost another $1\frac{1}{3}$ per cent of its original value. The present value of these same buildings in 1922 would average $1\frac{1}{3}$ per cent less, or only $61\frac{1}{3}$ per cent of the original value. This depreciation in one year of $1\frac{1}{3}$ per cent of original value is therefore equivalent to $1\frac{1}{3}$ divided by $62\frac{2}{3}$, or 2.1 per cent of the present value in 1921.

Similar treatment of the ages of school buildings in the City of New York in 1910 showed that the present value of these buildings depreciated 1.8 per cent between 1910 and 1911. This computation is followed through in Table 29.

TABLE 29

SCHOOL BUILDINGS — CITY OF NEW YORK — DATE OF CONSTRUCTION, AND AGE IN 1910, OF CERTAIN TYPICAL BUILDINGS

Age Group	Construction Period	Construction Date of Middle-Case Building	Age in 1910
Oldest quarter	1800–1879	1866	44
Next oldest quarter	1879–1894	1889	21
Third oldest quarter	1894–1901	1898	12
Newest quarter	1901–1910	1905	5

Calculation: Average age in 1910 (44 plus 21 plus 12 plus 5 divided by 4) equals $20\frac{1}{2}$ years.

Present value 1910 equals $\frac{75}{75}$ minus $\frac{20\frac{1}{2}}{75}$ equals $\frac{54\frac{1}{2}}{75}$ equals $72\frac{2}{3}$ per cent of original value.

Average age in 1911, $21\frac{1}{2}$ years.
Present value in 1911 equals $71\frac{1}{3}$ per cent of original value.
Depreciation in present value, 1910 to 1911, equals $1\frac{1}{3}$ divided by $72\frac{2}{3}$ equals 1.8 per cent.

The rate of depreciation having been figured as 1.8 per cent in 1910 and 2.1 per cent in 1921, it seems fair to assume that the best figure to represent the annual depreciation in the present values of New York City's school buildings during the past twelve years is 2.0 per cent.

Having the dates of construction of any group of school buildings it is possible to determine the rate of depreciation in present values by the method outlined above. This has resulted in accepting 2 per cent as the best figure to use in determining the depreciation of the school buildings in the cities of the State of New York, and 3 per cent as the best figure to use in connection with the rural school buildings.

TABLE 30

RURAL SCHOOL BUILDINGS — STATE OF NEW YORK — DISTRIBUTION OF ONE- TO FOUR-TEACHER SCHOOL BUILDINGS BY DATE OF CONSTRUCTION [1]

Date of Construction	1840 or before	1841 to 1850	1851 to 1860	1861 to 1870	1871 to 1880	1881 to 1890	1891 to 1900	1901 to 1910	1911 to 1920
Number of Buildings .	130	133	166	218	225	154	81	84	72
Total Number of Buildings									1263

[1] This table is a combination of Tables 61, 62, and 63 in the volume *Buildings and Grounds* of the "Rural School Survey of New York State" by the Joint Committee on Rural Schools, Ithaca, New York, 1922.

Table 30 presents the basic facts as to the dates of construction of the rural school buildings of the State of New York. From the facts of this table Tables 31 and 32 are derived. In Table 31 it is shown that in 1920 the four age groups of these rural buildings are respectively 77, 57, 43, and 19 years old.

TABLE 31

ONE- TO FOUR-TEACHER RURAL SCHOOL BUILDINGS — STATE OF NEW YORK — DATE OF CONSTRUCTION, AND AGE IN 1920, OF CERTAIN TYPICAL BUILDINGS

Group	Construction Period	Construction Date of Middle-Case Building	Age in 1920
Oldest quarter	Before 1854	1843	77
Next oldest quarter	1854–1870	1863	57
Third oldest quarter	1870–1886	1877	43
Newest quarter	1886–1920	1901	19

In computing the average age of any group of buildings it is inconsistent to assign to any subgroup an age greater than 75 years. To do so would require the assigning of a negative value to this subgroup. The oldest quarter of these rural buildings is therefore called 75 years old in both 1920 and in 1921. The one figure best representing the age of rural school buildings in 1920 is therefore (75 plus 57 plus 43 plus 19) divided by 4 or $48\frac{1}{2}$ years. The present value of these buildings in 1920 would therefore be $\frac{75}{75}$ minus $\frac{48\frac{1}{2}}{75}$, or $35\frac{1}{3}$ per cent of the original value. In 1921 the average age of these same buildings would be (75 plus 58 plus 44 plus 20) divided by 4, or $49\frac{1}{4}$ years. The present value of the buildings in 1921 is therefore $\frac{25\frac{3}{4}}{75}$, or $34\frac{1}{3}$ per cent of their original value. The depreciation of these buildings from 1920 to 1921 in terms of present value is therefore ($35\frac{1}{3}$ minus $34\frac{1}{3}$) divided by $35\frac{1}{3}$, or 2.8 per cent.

Table 32 presents corresponding facts for this group of rural buildings in 1910.

TABLE 32

ONE- TO FOUR-TEACHER RURAL SCHOOL BUILDINGS — STATE OF NEW YORK — DATE OF CONSTRUCTION, AND AGE IN 1910, OF CERTAIN TYPICAL BUILDINGS

Group	Construction Period	Construction Date of Middle-Case Building	Age in 1910
Oldest quarter	Before 1853	1842	68
Next oldest quarter	1853–1869	1862	48
Third oldest quarter	1869–1882	1875	35
Newest quarter	1882–1910	1893	17

In this table the four quarters of the entire group are shown to have been 68, 48, 35, and 17 years old in 1910. The average age of the group was therefore 42 years and their present value was 44 per cent of their original cost. In 1911 the average age of this same group was 43 years and the present value $42\frac{2}{3}$ per cent of the original value. The present value therefore depreciated from 1910 to 1911 $1\frac{1}{3}$ divided by 44, or 3.0 per cent.

From this determination of a depreciation of 3.0 per cent at the beginning and 2.8 per cent at the end of the twelve-year period 3 per cent has been considered the best figure to use in connection with the annual depreciation in present value of rural school buildings.

Imputed Interest — How Calculated. — The value of the school buildings, sites, and equipment in the first-, second-, and third-class cities, in towns and villages, and in all other school districts for each of the twelve years, 1910–1921 inclusive, was secured from the State Department of Education. To compute an interest charge on the capital thus tied up, it was necessary to secure some figure as to the value of money in each of these groups each year. The income basis of long-term bonds issued for school purposes was decided upon as the best figure to represent this value.

Simply to find the income basis of each bond issue in a given year and to find the average of these rates would not allow for a weighting of this rate in proportion to the amounts of the issues. To illustrate: An issue of $10,000 at 6 per cent and an issue of $100,000 at $4\frac{1}{2}$ per cent income basis gives an average rate of 5.25 per cent. It is clear that this method attaches as much weight to the $10,000 as to the $100,000 issue. The method used in this investigation was to find the amount of interest earned in one year by the capital invested in each bond issue and to divide the sum of these amounts of interest by the total sum of the amounts of the issues, thus securing a single rate to represent the value of school money in that particular year. To illustrate, using the example above: $10,000 sold at an income basis of 6 per cent would yield $600 of interest yearly. One hundred thousand dollars at $4\frac{1}{2}$ per cent would yield $4,500. The total of $110,000 therefore would earn in one year $5,100. This amounts to an income basis of $5,100 divided by $110,000, or 4.64 per cent for that year.

The source of facts concerning school bond issues during these twelve years was "Municipal Bond Sales," published each year as a supplement to "The Bond Buyer." This book tabulates complete data concerning each municipal bond sold in a given year, giving the facts concerning amount of issue, purpose for which issued, the rate, the selling price, and the income basis. From this source the amount of each issue for school purposes, and the income basis of that issue for each year, was tabulated. The tabulations were made separately for the following groups of communities in the State of New York: first-class cities; second-class cities; third-class cities; towns and villages; and all other school districts.

Throughout the tabulation, the City of New York was recorded separately from the other first-class cities, making it possible to compute the rate for first-class cities, all cities of the state, or for the entire state, with the City of New York included, and with it excluded. The amount of issue and the income basis being tabulated in two columns for each group, it was possible by computation to secure the third column, the yearly interest on each issue. Then, as explained above, the column giving the amount of issues and the column with the yearly interest, were summed and the division made resulted in a single figure as the income basis of long term issues for school purposes in each of these groups. Combinations of these totals made it possible to compute the corresponding figure for any desired combination of school communities in the state.

Each school district of the state reports to the State Department at Albany each year the present value of its school buildings, sites, library, apparatus, furniture, and all other school property. In the case of the City of New York, the reports on buildings and sites have not been made on the basis of present value, as was asked by the State Department, but on the basis of the total accumulated cost. Before applying this computed rate to the figures reported by the City of New York it was necessary to substitute present values for the accumulated cost figures.

As a basis for this correction the assessed values of school buildings and sites in the City of New York were used. It is claimed by the Department of Taxes and Assessments that these non-taxable properties are assessed just as carefully and accurately as are other properties in the city. As a result of this investigation it was determined that the 1922 value of school buildings in the city was 76.4 per cent of the accumulated cost of these buildings and that the present value of sites is 104.5 per cent of their original cost. The State Department figures for the City of New York were corrected on this basis. From that point, it was simply a matter of applying the computed interest rate, for a given group of school districts, to the present value of the school plants in that group, in a given year, thus securing the imputed interest, which would be a proper charge against the communities of the state, as the result of having that amount of capital invested in school plants.

In working out the totals for the state, the original small groups were combined into three: cities exclusive of New York City; the City of New York; and towns and villages. The total for these three groups gave the figure for the whole state. These groups were chosen, because the state reports give values of sites, buildings, and the like, by these subdivisions.

The interest rates resulting from the computation just described are set forth in Table 33.

Appreciation in Value of School Sites. — The only reliable data relating to changes in the value of school sites are not for the entire state, but only

for the City of New York, and cover a much longer period than the twelve years here under review. These data, however, are exceedingly interesting in that they run counter to the general impression regarding the size of the increase of land values. Thus, it has often been assumed in discussions of this problem, that the increase in the value of school sites in general is substantial enough to offset roughly the depreciation in the value of school buildings, so rendering it unnecessary to consider such depreciation as a cost. The facts appear to indicate that this assumption is not justified.

TABLE 33

COMPUTED INTEREST RATES ON ISSUES OF LONG-TERM SCHOOL BONDS—STATE OF NEW YORK, 1910–1921

Year	Cities Exclusive of City of New York	City of New York	Towns and Villages	Total
1910	4.16%	4.00%	4.43%	4.10%
1911	4.13	4.00	4.41	4.04
1912	4.18	4.25	4.45	4.26
1913	4.52	4.00	4.76	4.25
1914	4.30	4.25	4.71	4.34
1915	4.22	4.50	4.64	4.36
1916	4.01	4.25	4.25	4.20
1917	4.27	4.50	4.54	4.47
1918	4.50	4.50	5.05	4.59
1919	4.38	4.25 [1]	4.62	4.34
1920	5.03	4.25 [1]	5.36	4.67
1921	4.53	4.25	5.30	4.55
Total 1910–1921	4.45	4.20	4.91	4.38

[1] The school money borrowed by the City of New York in 1919 and 1920 was financed by short-term notes bearing interest at the rate of 6 per cent and upward. In 1921 these notes were funded into long-term bonds bearing 4¼ per cent interest. This rate was adopted in the computation as the City of New York figure for the three years 1919, 1920, and 1921. The rate on long-term school bonds, floated by school districts outside the City of New York in 1919, was 4.46 per cent and in 1920 was 5.14 per cent. For the entire twelve-year period, the rate outside the City was higher than the rate in the City of New York by $\frac{38}{100}$ of 1 per cent.

The present value of the school sites (exclusive of buildings) in the City of New York is $38,435,308. The original cost of these sites, some of which were purchased many years ago, was $36,794,010. The increase in value, therefore, amounts to only $1,641,298, or 4.5 per cent.

The figures regarding original cost are taken from the records of the Board of Education of the City of New York. The individual sites were identified on the records of the Department of Taxes and Assessments, and the present assessed values were taken. The assessment of land values in the City of New York is performed with a high degree of accuracy, and the valuations are generally conceded to approximate closely the full market value of the land. The State Tax Commission, basing its ratings upon

extensive comparisons with values stated in deeds in cases of recorded sales, assigns, for 1921, the following percentage to the various boroughs of the city, as an indication of its judgment concerning the probable per cent which assessed values were of true values in those boroughs.

	Percentage
Manhattan	95
Bronx	93
Brooklyn	95
Queens	93
Richmond	93

Those familiar with real estate conditions testify that these percentages are too low rather than too high. The assessors arrive at the value of the school sites by the use of the same technique of unit foot-front values as that used in assessing other land. They insist that the values assigned to school sites are fully as precise and reliable as those assigned to land in general.

A comparison of the original cost of school sites with present values, by boroughs, yields the following results:

	Original Cost	Present Value	Increase or Decrease
Manhattan	$23,082,230	$24,017,700	+ $935,470
Bronx	4,113,567	4,395,300	+ 281,733
Brooklyn	7,719,913	7,389,350	− 330,563
Queens	1,504,049	2,275,258	+ 771,209
Richmond	374,251	357,700	− 16,551
Total	$36,794,010	$38,435,308	+$1,641,298

The surprisingly small increase in the value of school sites, taking the city as a whole, together with the actual declines shown in the boroughs of Brooklyn and Richmond, raise the question sharply as to whether good judgment and due economy have always been observed in the purchase of land for school purposes. Inquiry among officials familiar with the procedure followed in purchasing school sites has elicited the information that in recent years, at least, it has been almost the universal practice to resort to condemnation proceedings. This method is not only expensive in itself but also tends to eliminate the possibility of acquiring land upon terms as favorable as are ordinarily secured in private bargains.

If similar conditions prevail in other parts of the state, it is apparently true that appreciation in the value of school sites cannot be counted upon as a material item. The depreciation of school buildings and equipment in the City of New York in the single year 1921[1] was much more than the total appreciation in the value of all school sites in the city since their original acquisition.

[1] The figure is $2,524,455 as compared with $1,641,298.

The Adequacy of the School Plant

The statistics of double sessions and part-time enrolments in the schools of the City of New York, presented on page 119, throw light on the inadequacy of the present physical equipment of the schools. This information is supplemented in an interesting fashion by the tables presented earlier in this chapter (pages 83–86) showing the dates of construction of school buildings.

The table constructed from data gathered by the Rural School Survey (page 85) shows that three-eighths of the one- to four-teacher rural school buildings now in use in the state were constructed before the Civil War. No less than 48 of the 1,178 one-teacher schools included in the sampling were built before the year 1825.

In the City of New York there are 6 buildings, a century or more old, which are still in service. No less than 160 buildings, or 30 per cent [1] of the total number, are more than 50 years old. However, since one-half of the total number have been constructed since 1896, the average age of the buildings is considerably less than those in the country districts.

It is not possible from the data available to make a satisfactory statement regarding quality of construction of New York school buildings. In the City of New York, 260 out of a total of 575 buildings (including certain leased buildings) for which the facts are published, are classed as C, CD, or D. Class C consists of brick buildings with wooden floor beams, and Class D is made up of wooden buildings including portables. Seventy-five out of a recorded total of 567 are constructed of wood; and 467 are of brick, or stone, or of stone and brick together.

Table 34 gives the facts concerning types of construction for a large sampling of school buildings in the state, outside of the City of New York.

TABLE 34

TYPE OF CONSTRUCTION OF SCHOOL BUILDINGS IN CERTAIN DISTRICTS—STATE OF NEW YORK, REPORTED IN 1922

Class of District	Percentage of Districts Reporting	Percentage of Each Exterior Construction Type				
		Brick	Frame	Stone	Concrete Block	Fireproof
Cities of Second Class . .	71.4	90.6	6.3			3.1
Cities of Third Class . . .	75.5	88.8	7.2	1.8	0.4	1.8
Villages over 4500	60.3	68.0	24.7	4.1	1.6	1.6
Union Schools, Four-Year .	54.1	63.1	30.7	3.8	2.4	
Union Schools, Three-Year .	54.7	22.4	68.6	3.0	4.5	1.5
Union Schools, Two-Year .	35.5	36.4	54.5			
Union Schools, One-Year .	45.3	37.4	50.0		4.2	
Rural Supervisory	63.5	7.6	91.1	1.3		

It is clear that much of the school plant now in service is very old and distinctly below the standards of construction considered satisfactory.

[1] That is, 30 per cent of the 534 owned buildings. Leased buildings are excluded.

CHAPTER VI

THE SUPPORT OF PUBLIC EDUCATION IN THE STATE OF NEW YORK — AN ANALYSIS OF THE SOURCES

THREE-FOURTHS of the funds used to support the system of public education in the State of New York are raised by the local political subdivisions — the school districts, the villages, and the cities. The remainder is raised by the state, except for a relatively insignificant portion supplied by the federal government. Practically all of the funds come from taxes.[1] The localities depend almost entirely upon the property tax (which in New York State is practically a tax on real estate), while the state and the federal government use a variety of taxes. This chapter gives, in the first place, the amounts of school revenues raised by the local divisions, the state, and the federal government; second, explains the manner in which the state and the federal government participate in the support of the system; and, third, shows the character of the revenues used to finance the system. The following chapter, pages 107–115, describes briefly the system of taxation in force in the State of New York.

Analysis of Support by Political Divisions. — During the period under review, the figures clearly show a trend toward increased state and national participation in the support of public education in the state. While the localities continue to meet by far the largest portion of the expenses of the school system, with the state second, and the federal government an unimportant third, there have been, nevertheless, remarkable differences in the rates of increase of the several political divisions. While local support has increased approximately two and one-half times, state support has increased five times, and federal ten times. Whereas in 1910 local political divisions supplied 86 per cent of the support, in 1922 they supplied only 77 per cent. Even with its tenfold increase in twelve years, the federal share now amounts only to $\frac{4}{10}$ of one per cent of the total support of public education in the state.

Practically all of the increase in state support has come in the past three years. It required ten years for the state's contribution to grow from eight to eleven and one-half millions. Since 1919, it has grown to forty-one millions. This growth is explained by recent state-wide salary increases granted to teachers, the burden of which was assumed directly by the state treasury.[2]

[1] This statement ignores the receipts from borrowings.

[2] The Lockwood-Donohue bill signed in May, 1920, taking effect in August, 1920, increased teachers' salaries throughout the state, and established minimum salaries in all public schools of the state. Pre-

TABLE 35

TOTAL REVENUE FOR PUBLIC EDUCATION, CLASSIFIED BY POLITICAL DIVISIONS SUPPLYING THE FUNDS

FOR YEARS ENDING JULY 31, 1910–1922

State and Local — State of New York

YEAR	LOCAL SUPPORT[1]	STATE SUPPORT[2]	FEDERAL SUPPORT[3]	TOTAL
1910	$49,014,785	$8,120,755	$68,000	$57,203,540
1911	51,033,461	8,487,449	75,000	59,595,910
1912	57,000,373	9,358,509	80,000	66,438,882
1913	62,371,624	9,882,714	80,000	72,334,338
1914	63,471,154	9,668,303	80,000	73,219,457
1915	66,169,995	10,030,271	116,587	76,316,853
1916[4]	67,349,310	9,214,983	153,484	76,697,777
1917	70,751,374	10,119,430	157,355	81,028,159
1918	77,781,698	10,619,803	339,751	88,741,252
1919	85,125,397	11,579,783	431,168	97,136,348
1920	97,295,296	17,404,748	636,868	115,336,912
1921	119,102,990	39,514,710	672,158[5]	159,289,858
1922	138,030,994	41,114,317	670,649	179,815,960

City of New York Only

1910	$33,521,451	$1,797,589	——	$35,319,040
1915	42,628,765	2,201,187	——	44,829,952
1920	57,840,587	5,050,161	$56,893	62,947,641
1921	71,790,794	17,103,492	48,767	88,943,053
1922	82,206,195	17,756,194	107,377	100,069,766

[1] In 1910, taxes accounted for all but $100,000 of this sum, and in 1921, for all except $637,113. For the first ten years, it was necessary to estimate the amount of this non-tax, miscellaneous revenue, because the reports of the State Department of Education include proceeds of temporary loans and other non-revenue receipts in such a manner that it is impossible to separate them. The estimate is based on the assumption that the relationship of the miscellaneous revenues to the total tax revenues was the same in the earlier years as that which was obtained in the year 1920, when it was possible to secure a fairly precise separation of the items in the state report.

[2] This item includes not merely all state appropriations for educational purposes from the general state revenues, but also the interest on the permanent school fund, the amount of which is shown in Table 39, p. 104.

[3] This figure represents federal revenues available for educational purposes in the State of New York. It includes federal appropriations for colleges of agricultural and mechanic arts, for the "states-relations service," for vocational rehabilitation, and coöperative vocational work.

[4] The state's fiscal year was changed at this time so that certain of the figures are for a nine-month rather than a twelve-month period.

[5] See footnote 5, Table 36, p. 95.

Subventions. — The figures in the preceding section show the sums[1] collected by the various political divisions for the support of public edu-

viously only cities had such minimum salaries. The increases in the cities ranged from $300 to $600 for regular teachers. The increase in state quotas established by this bill was sufficient to pay the increase in the minimum salary for a beginning teacher, but not the annual increments. The legislature appropriated $22,550,000 for carrying out the provisions of the bill. For further details, see "The New York State Salary Bill" (summary for the *Bulletin* of the University of the State of New York, by Mr. Frank B. Gilbert), in *School and Society*, XI, June 5, 1920, pp. 689–690; also Education Law, July 1, 1922, Sections 491–*a* and 882–889, and same sections in Education Law, July 1, 1919.

[1] Loans being disregarded.

cation in the State of New York,[1] but not all of these moneys were spent directly for education by the political divisions collecting them. Indeed all of the sums credited in the table to the federal government, and a large portion of the sums credited to the state, were distributed to other jurisdictions before being actually spent. Amounts received by one political division from some other political division ordinarily appear as receipts in the accounts of the recipient, involving the possibility of double or even triple counting. In Table 35 such transfers have not been permitted to distort the figures. As given, these figures represent the actual revenue collections of the federal, state, and local governments devoted to the support of the system of public education in New York. This section indicates the extent to which the funds of the various political divisions are transferred to other divisions for expenditure, and explains briefly the basis upon which such subventions are made. In a later section of the report [2] material is introduced bearing upon the results of the state subvention system in actual operation.

Basis of Subventions. — A precise description of the basis upon which federal and state money is apportioned among the localities is an elaborate undertaking. The present arrangements are the product of a long history of piecemeal legislation. The result is chaos. The standards used are so numerous, and are combined and conditioned in so many different ways, that a simple description is exceedingly difficult, and a precise appraisal of the relative importance of all the different standards is quite out of the question. It is indeed suggested, at this point, that unless the reader has a special interest in the details of the subvention problem, he may find it wise to skip the remainder of this chapter. The material it contains, however, cannot properly be omitted, since it is essential for any complete understanding of the fiscal support of public education in the State of New York.

A description of the manner in which the subventions are made falls naturally into three parts, as follows:

(*a*) The basis used by the federal government in distributing funds among the states;
(*b*) The basis used by the state in distributing among the local units the portion of the federal money which it does not itself spend directly; and
(*c*) The basis used by the state in distributing its own funds (as contrasted with federal money) among the local units.

Each will be discussed in turn.

(*a*) *The Federal Basis.* — The federal government utilizes the following five criteria in apportioning funds among the states for education:

(1) The state *per se;*
(2) The ratio of rural population in each state to total rural population of all states;

[1] It should be noted that no federal expenditures on strictly federal educational projects are credited to New York in the figures included in this chapter.

[2] See pp. 162–166.

(3) The ratio of the total population of the state to the total population of all states;
(4) The ratio of the urban population of the state to total urban population of all states;
(5) The appropriation of similar sums by the states or localities.

The criteria used in the distribution of each federal subvention in which New York shares, and the financial importance of each subvention, are shown in Table 36.

TABLE 36

AMOUNT AND BASIS OF FEDERAL SUBVENTIONS FOR EDUCATION IN THE STATE OF NEW YORK, 1921

Subvention	Amount Appropriated to Public Education in the State by Federal Government, Year Ending June 30, 1921	Criteria Used as Basis of Distribution[1]
Colleges of Agriculture and Mechanic Arts (Morrill Act, 1862)	$ 50,000	1
Experiment Stations (Hatch Act, 1887) .	30,000	1
Coöperative Agricultural Extension Work (chiefly Smith-Lever Act, 1914)[2] . .	203,728	2 and 5
Vocational Rehabilitation	74,587[3]	3 and 5
Coöperative Vocational Work (Smith-Hughes Act, 1917)		
In Agriculture	48,839[4]	2 and 5
In Trade, Home Economics, and Industry[5]	212,376[4]	4 and 5
In Vocational Education for Teachers	99,449[4]	3 and 5
	$718,979[6]	

[1] The figures in this column refer to the list of criteria appearing on page 97.

[2] In addition to the "regular Lever" appropriation of $131,121, this item includes (1) the "supplementary Lever" appropriation of $58,607; (2) an allotment of $10,500 from a lump-sum appropriation to the States Relations Service of the United States Department of Agriculture for extension work on its own part (not a part of Smith-Lever funds); and (3) miscellaneous allotments from the Department of Agriculture for the joint employment of specialists amounting to $3,500.

[3] Of this amount received by the state during the fiscal year ending June 30, 1921, only $2,797.68 was expended. To the unexpended balance of $71,788.98 was added $26,861.41 during the year ending June 30, 1922. From these funds $31,767.88 was spent, leaving a balance on June 30, 1922, of $66,882.51.

[4] These sums were appropriated by the federal government and received by the state during the fiscal year ending July 31, 1921. Distributions to the localities were made in the fall of 1921, and appear in the school reports for the year ending July 31, 1922.

[5] One-third of the money allotted must be used for part-time or continuation school work.

[6] This amount, $718,979, differs from the sum given in Table 35 ($672,158) by $46,821 in spite of the fact that the $672,158 is supposed to represent appropriations rather than state receipts. The difference is explained by errors in allocating the federal grant. The final check showed that the item of $74,586.66 (vocational rehabilitation) was inadvertently omitted and that an item of approximately $16,000 was apparently twice counted. The totals appearing in the general tables were not changed upon the discovery of this discrepancy because, first, the amounts are relatively small, second, the errors tend to counteract each other and, third, because a precise adjustment is impossible, the federal reports themselves containing discrepancies which have proved impossible of reconciliation.

It will be observed that the federal system of apportioning money among the states is still in a stage of relative simplicity. The older grants, those

for agricultural colleges (1862) and for experiment stations (1887), are in the form of a flat amount to each state. The five most recent subventions [1] all include the "half-and-half" feature which requires that the states (or localities) accepting the federal money shall match the federal grant, dollar for dollar. In addition all five use population, in some form, as an additional standard in determining the size of the grant. In other words, the federal subvention system (so far as the grants are not flat, equal amounts to each state) aims to apportion the sums in proportion to the size of the task to be performed (population basis) and in a manner which will stimulate state activity along particular lines ("half-and-half" feature).

(*b*) *The State Basis for Distributing Federal Funds.* — Part of the federal money goes directly to certain institutions, not passing through the hands of the State Department of Education at all; part is expended either by the department itself, or by state or private institutions which receive the money from the state department; and still a third part is passed on by the state to schools maintained by local political units.

Of the items appearing in Table 36, the first item of $50,000 goes to Cornell University, passing through the State Comptroller's office on the way.[2] Of the second item of $30,000, Cornell receives $27,000 and the State Experiment Station at Geneva $3,000, the money going directly to these institutions from the Federal Treasury and not passing through any state office on the way. The third item, $203,728, also a direct federal payment, goes to Cornell University. The State Department of Education receives the fourth item ($74,587) and makes grants from this fund to various institutions which provide for the work in vocational rehabilitation.

Part of the money received by the state for coöperative vocational work in agriculture (the fifth item in Table 36) goes to the six special state schools of agriculture and part to local public schools maintaining approved agricultural courses. For each approved teacher of such subject, in an approved local school, whose salary is $1,400 or more, $200 is given, and in addition a sum equal to two-thirds of the amount by which the salary exceeds the $1,400 minimum. The total given for any one teacher, however, is limited to $866.66.

The federal money for coöperative vocational work in trade, home economics, and industry (next to last item in table) is granted subject to the condition that at least one-third must be expended for part-time or continuation schools.

The basis used by the state in distributing the money to the part-time

[1] All of these grants have been established in the past ten years, beginning with the Smith-Lever Act of 1914.

[2] $30,000 goes to the University as such and $20,000 specifically to the College of Agriculture in the University.

or continuation schools is a double one: There is, first, the supervision quota, which consists of two-thirds of the salary in excess of $1,500 (limit of quota, $1,000) of a full-time supervisor;[1] in the second place, there is a quota for cities and districts not employing a supervisor which consists of a sum equal to two-thirds of such part of the salary paid to one teacher [2] as is in excess of $1,500 (maximum $1,000). The basis of the distribution to unit trade schools (as distinguished from part-time or continuation schools) is teachers' salaries once more, but in this case nothing is given toward the expenses of supervision, and the subvention of federal money is arranged so as to supplement the $1,000 grant of state money [3] to the extent necessary to insure the payment, from these sources combined, of two-thirds of the total salary of the teachers of trade and related subjects. All of the federal grant for teacher training coöperative vocational work, the last item in the table, is spent directly by the state without distribution to the local units.

It is clear that, in so far as the state redistributes to localities the money it receives from the federal government, it does so on the basis of sharing salary costs of teachers and supervisors of special subjects. It is a plan of distribution designed primarily to stimulate the development of particular portions of the educational program.

(c) *The State Basis for Distributing State Funds.* — The system of distributing state moneys has passed through a long evolution. As early as 1786 the state established the so-called "literature fund" to aid in financing academic departments for the training of teachers. The "common-school fund" was first set up in 1805, the first distributions being made in 1814. The proceeds from these two funds, together with those of the "United States Deposit Fund," established in 1837 from distributions from the national surplus, supplied from ten to twenty per cent of the common school revenues during the first half of the nineteenth century.[4] In addition to the distributions of the proceeds of these permanent school funds, the state continuously since 1851[5] has apportioned to the localities money raised by general state taxes, and has increased such tax-money grants to a point where they now quite overshadow the distributions from the permanent funds.

No less than thirteen different criteria are now used in distributing state school money to the local units. They are:

[1] It is necessary that the district or city employing the supervisor shall employ four or more teachers for the instruction of part-time pupils and shall pay such teachers' salaries which amount to a sum at least twice as great as the supervision quota.

[2] This teacher must devote full time to the instruction of part-time pupils and to the coördination of the work of such part-time pupils with the instruction.

[3] See p. 100, footnote 7.

[4] T. E. Finegan, "Free Schools, 15th Annual Report of the Education Department, New York, 1919"; F. H. Swift, "History of Public Permanent Common School Funds in the United States, 1795–1905"; S. S. Randall, "Common School System of the State of New York, 1851."

[5] Such distributions were also made for the period 1795–1800.

(1) The school district *per se;* [1]
(2) The employment of a superintendent;
(3) The number of licensed teachers employed;
(4) The population of the district;
(5) The assessed valuation of property of the district;
(6) The maintenance of a high school; [2]
(7) The number of non-resident students [3] attending the high school;
(8) The aggregate daily attendance in the high school;
(9) The maintenance of a teachers' training class;
(10) Aggregate daily attendance in training schools;
(11) Amount spent for books, apparatus, etc.;
(12) Length of school term;
(13) Salary of teachers.

Which of these criteria apply to each state "quota" and the relative financial importance of the quotas are shown in Table 37.

Table 37, elaborate as it is, throws very little light either upon the relative importance in actual practice of the various criteria or upon the theory upon which the criteria were selected.

	Amounts Distributed on Basis of Flat Amount per Teacher	Amount of Distributions Affected by the Assessed Value of Property and the Population
District Quota [1]	$1,292,375	$215,750
Teachers' Quota	4,665,159	— —
Additional Teachers' Quota [2]	10,899,400	15,556,265
Total	$16,856,934	$15,772,015

[1] This division was made by assigning to the first column the minimum amount, $125, for each district, and all the rest to the second column.

[2] The tables of the State Department show a total of 55,732 teachers for 1920–1921. Deducting the 610 physical training teachers and the 625 vocational teachers on account of which no additional quotas are allowed, the figure of 54,497 is obtained. Multiplying by $200, the minimum grant, the figure of $10,899,400, given above, is obtained.

Three of the quotas — the "district quota," the "teachers' quota," and the "additional teachers' quota" — taken together, account for $32,628,949 or 91 per cent of the total state subventions. This entire sum goes to pay teachers' salaries.[4] The conditions are imposed that licensed teachers must be employed at least 180 days per year to secure the full quota and that annual reports must be rendered, but these (the sole criteria directly affecting standards which are used in distrib-

[1] Subject to the qualification that no district quota is given when the district does not either employ a teacher or contract with some other district for the education of its pupils.

[2] Not only the maintenance of an academic department (high school), but also the number of years of instruction offered in such department, are taken into account.

[3] That is, students from districts not maintaining an academic department, or from districts maintaining one which does not offer a full four-year curriculum.

[4] With the negligible exception that in "contracting" districts, the "District Quota" may be used for purposes of transportation and tuition.

uting these three quotas) are of such slight importance that they can be ignored, especially since partial quotas are often given when a teacher is employed for a shorter period.[1]

The table on page 98 presents an estimate of the extent to which the allotment of these three quotas depends on population and the assessed value of property. It appears that less than half of the total subvention is

TABLE 37

AMOUNT AND BASIS OF STATE SUBVENTIONS FOR EDUCATION — STATE OF NEW YORK, 1922

Subvention	Amounts Apportioned during Year Ending July 31, 1922[1]	Criteria Used as Basis of Distribution[2]
Common School Fund		
District Quota[3]	$ 1,508,125	1 and 5
Supervisory Quota[4]	94,400	2 and 4
Teachers' Quota[5]	4,665,159	3 and 12
Additional Teachers' Quota[6]	26,455,665	3, 4, 5, and 1
Vocational Quota[7]	946,116	3, 12, and 13
Physical Training Quota[8]	365,467	3, 12, and 13
Teachers' Expenses at Conferences	174,191	
Supplementary Apportionment[9]	9,209	
Indian Schools[10]	15,900	
Total	$34,234,232	
Academic Fund		
Academic Quota[11]	$540,200	6
Non-resident Tuition[12]	853,756	7
Grants for Books and Apparatus[13]	125,000	3, 6, and 11
Grants to Sectarian Academies[14]	5,987	8
Total	$1,524,943	
Training Classes and Schools[15]	90,000	9 and 10
Grand Total[16]	$35,849,175	

[1] The amounts shown in this column were apportioned during the year indicated. Certain small amounts were not actually paid to the districts in the period. The apportionment is based upon an appropriation made in the year 1921, as reported for that year.

[2] The numbers in this column refer to the list of criteria given on p. 97.

[3] The detailed distribution of this quota was as follows:

911	districts, assessed valuation less than $10,000,	@ $200	$182,200
2,085	districts, assessed valuation $20,000 to $40,000,	@ $175	364,875
1,727	districts, assessed valuation $40,000 to $60,000,	@ $150	259,050
5,616	districts, assessed valuation over $60,000,	@ $125	702,000
10,339			$1,508,125

[4] $800 to each district with a population of 4,500 or more employing a whole-time superintendent. The amount was apportioned to 59 cities and to 59 villages.

[5] $100 for every teacher, after the first in each district, employed for at least 180 full days. Districts with only one teacher do not share in this quota, the "district quota" (cf. note 3 above) being considered a grant for the first teacher.

[6] From $200 to $600 per teacher (employed for at least 180 full days) for salary increases, the amount varying directly (but irregularly) with the population and inversely with amount of the assessed value of property. The results are indicated in the following statement:

[1] Partial quotas are granted if a satisfactory reason is given for failure to maintain school for the legal term or when new classes are formed or positions are abolished.

affected by these basic factors in the financial problem. Further discussion of this important question is presented in Chapter XII, pp. 162–166.

Type of District	Amount of Quota per Teacher
(*a*) One-teacher districts, assessed valuation over $100,000	$200
One-teacher districts, assessed valuation of 99,000	203
One-teacher districts, assessed valuation of 98,000	206
(etc. adding $3. for each $1,000 decrease in assessed valuation)	
(*b*) Districts with two or more teachers but no academic department	300
(*c*) Districts maintaining academic departments, villages under superintendents, and all cities except those specified	350
(*d*) Albany, Schenectady, Troy (including Lansingburg), Utica, Binghamton, and Niagara Falls	450
(*e*) Buffalo, Rochester, Syracuse, Yonkers, Mount Vernon, New Rochelle, White Plains, Lackawanna	550
(*f*) City of New York	600

The statement made above that the grant varies directly (but irregularly) with the population is based on the form of the law which classifies the grants roughly according to the classes of cities and the districts. However, it is a fact that, while in class (*a*) (the one-teacher districts) the amount of the grant increases as the assessed valuation decreases, the reverse principle applies for the other classes; that is, in general, the amount of the grant increases as the assessed values increase. This is shown by the following figures of per-capita real estate assessments for 1920:

	Middle Case
Class (*c*)	
Union School Districts	$829
Villages over 4,500	860
Cities except those specified	892
Class (*d*)	
Albany, Schenectady, etc.	$1,160–1,081
Class (*e*)	
Buffalo, Rochester, etc.	1,560–1,420
Class (*f*)	
City of New York	1,632

Thus a single quota subsidizes the very rich and the very poor local units more heavily than the moderately rich districts.

[7] Vocational and agricultural quotas; part-time and continuation school and evening vocational quotas. The state pays two-thirds of the salary paid the first teacher, but not more than $1,000, and one-half the salary of each additional teacher, but not to exceed $1,000 for each teacher for full year of 180 days, for each separately organized vocational school. This item of $946,116 also includes the so-called "Director of Agriculture Quota," which covers one-half of the salary paid, not to exceed $600. All money distributed comes from the state and none from the federal government.

[8] The state pays one-half of the salary of a licensed physical training teacher, but not to exceed $600.

[9] This is an adjustment because of items not included in the original apportionment.

[10] The state pays $150 for each teacher in the Indian schools.

[11] $200 for each year of academic instruction to a school maintaining an academic department (high school) and for each year of high school work in a non-sectarian private academy.

[12] $50 for each non-resident pupil from a district which does not maintain an academic department at all, or one which offers less than the four-year curriculum. In the latter case the student must complete such work as is offered in his local high school before the tuition becomes available.

[13] Amounts which vary from year to year depending upon the available funds up to a maximum of $250 to each high school maintained by a city, to each union free school district maintaining an academic department, and to each non-sectarian private academy; $18 to each school district, including cities, plus $2, for each licensed teacher employed for the legal term. This quota is contingent upon the expenditure of like sums by the localities.

[14] This grant is distributed on the basis of aggregate daily attendance of academic pupils.

[15] $700 for each academy and union free school district maintaining a training class in accordance with the state requirements. To secure the full quota of $700 the class must contain at least ten students in attendance. The remainder of the appropriation is given to training schools on the basis of aggregate attendance. The district or city also receives the "Teachers' Quota" and the "Additional Teachers' Quota" for each teacher employed for the legal term in the training classes and schools.

[16] Effective for the first time in 1922, there is, in addition to all of the grants here listed, a new one called the "Americanization Quota," or "Quota for Immigrant Education." The state pays one-half of the salary of each teacher of immigrants, not to exceed $1,000. This quota involves the use of criteria 3, 12, and 13.

Amounts of Subventions. — In Table 38 are shown the sums supplied by the federal and state governments toward the support of public education in the state, analyzed to indicate the inter-treasury transfers.

Thus the first column shows the sums which the federal government granted the state [1] and which were expended without being passed on to the local political divisions, such as the appropriations for colleges of agricultural and mechanic arts [2] and appropriations under the states-relations service.

The second column gives the sums which the federal government granted, but which were merely passed on by the state to the localities, for expenditure. The only appropriations of this class are those for vocational education.

The third column gives the sums of state money granted to the localities.

Column four gives the sums of state money spent by the state in carrying out functions connected with the system of public education.

The last column presents a figure which represents the total amount of assistance [3] to the localities, whether in terms of money given or functions taken over and performed by the state.

These figures make it possible to correct an impression which might otherwise be thought to flow naturally from the facts presented in Table 35,[4] namely, that the increased importance of the element of state support in the financing of the school system indicates a corresponding encroachment upon local autonomy in school administration. Table 38 supplies evidence that such is not the case. Moneys given outright [5] to the localities by the state have increased sevenfold, while the sums spent by the state directly on education have less than doubled. It will be recalled that during this period the total cost of education trebled. In other words, while the state now raises a larger share of the total school funds and the localities tax themselves for a smaller share than was the case twelve years ago, the per cent the state spends directly is growing smaller.

Analysis of Support by Fiscal Nature of the Sources. — Table 39 shows that taxes supplied approximately ninety-nine per cent of all the revenues both in 1910 and in 1922. The nature of the tax system which produced this revenue is described later (pp. 107–115).

[1] No attempt has been made to allocate to New York State an arbitrary proportion of the expenditures made directly by the federal government in carrying out its own peculiar educational functions.

[2] The phrase "granted the state" is not interpreted so as to exclude funds which do not pass physically through the state treasury or the State Department of Education. See p. 96.

[3] Assistance is here used in the sense of moneys raised rather than expenditures made.

[4] See p. 93.

[5] It is true, of course, that the increased state subventions of recent years are definitely dedicated to teachers' salaries and in so far as this operates as a restriction upon the disposal of the money, it may possibly be termed an impairment of local autonomy. However, the state does give the money to the localities, subject to this one restriction as to its use, leaving the locality the same degree of freedom as before in organizing and administering its school system.

TABLE 38

FEDERAL AND STATE SUBVENTIONS FOR SUPPORT OF PUBLIC EDUCATION — STATE OF NEW YORK, 1910–1922

For Years Ending July 31

Year	Federal Grants for Education in New York Passing to Other Agencies than the Local School Systems	Federal Grants for Education in New York Passing to Local School Systems [1]	State Grants to Localities [2]	Other State Revenue Expended by State for Education [3]	Total
1910	$ 68,000	None	$ 5,296,569	$ 2,284,186	$ 8,188,755
1911	75,000	"	5,446,152	2,667,603	8,562,449
1912	80,000	"	5,588,466	3,770,043	9,438,509
1913	80,000	"	5,760,796	4,121,918	9,962,714
1914	80,000	"	5,769,106	3,899,197	9,748,303
1915	166,587	"	6,077,844	3,952,427	10,146,858
1916 [4]	133,484	"	6,291,640	2,923,343	9,348,467
1917	157,355	"	7,716,220	2,403,210	10,276,785
1918	339,751	"	6,897,001	3,722,802	10,959,554
1919	431,168	" [1]	7,731,190	3,848,593	12,010,951
1920	521,261	$115,607	12,584,572	4,820,176	18,041,616
1921	551,759 [5]	120,399 [5]	33,498,506	6,016,204	40,186,868
1922	417,352	253,297	36,849,784	4,264,533	41,784,966

[1] The figures in this column represent amounts acknowledged as coming from federal sources in the reports of the local school systems. A small amount of money was received by the localities in the year 1918–1919, but the form of report for that year did not call for a segregation of the amount. The following account of the federal money for coöperative vocational work is of interest in this connection. It should be considered in the light of the explanation on pages 94–97 regarding distributions of funds. Expenditures appearing in this table for a given year are not accounted for in the reports of the local school systems until the following year.

RECEIPTS

(Fiscal Years Ending June 30, 1917–1922)

	1917–1918	1918–1919	1919–1920	1920–1921	1921–1922
Agricultural Education	$ 19,535.60	$ 29,303.40	$ 39,071.20	$ 48,839.00	$ 53,390.89
Trade, Industrial, and Home Economics	84,950.35	127,425.53	169,900.71	212,375.87	239,184.56
Teacher Training	49,724.44	69,614.21	89,503.99	99,448.88	98,650.39
Total	$154,210.39	$226,343.14	$298,475.90	$360,663.75	$391,225.84

EXPENDITURES

Agricultural Education	$ 19,535.60	$ 18,679.52	$ 31,511.54	$ 48,839.00	$ 52,390.89
Trade, Industrial, and Home Economics	67,804.74	94,818.64	83,911.57	212,375.87	239,184.56
Teacher Training	28,163.92	45,991.84	75,637.83	99,242.45	98,650.39
Total	$115,504.26	$159,490.00	$191,060.94	$360,457.32	$390,225.84

[2] These figures represent what the localities report as having received from the State Treasury and do not include the amounts withheld by the Department for the Retirement Fund. Because of differences in fiscal years, the figures do not check exactly with those of the State Comptroller, which represent the actual state distributions.

[3] Since the figures in this column are obtained by subtracting the state subventions as given in the preceding column from the total as given in the last column, there will be discrepancies with the Comptroller's figures for reasons explained in footnote 2.

[4] The state's fiscal year was changed at this time so that certain of the state figures are for a nine-month rather than a twelve-month period.

[5] See footnote 6, Table 36, p. 95.

The second column, headed "Permanent Funds," shows the proceeds of the three state permanent school funds.[1] These proceeds represent the actual yield of interest on these funds which are invested for the most part in bonds of the local municipalities of the state. The yield has increased only slightly during the period. A similar additional item, interest on other educational funds, is included in the "Miscellaneous" total of column three. This item in 1920 amounted to $83,282 out of the total of $781,125 shown in the table. This column also includes all educational fees from the normal schools, from the College of the City of New York, and from Hunter College, from the State Department of Education, and from common schools, except the tuition of non-resident pupils paid by public authorities. These fees make up the bulk of the figures. An insignificant item of gifts is also included in column three. The growth of the "Miscellaneous" group is explained almost entirely by the increase in fees charged in recent years by the higher educational institutions.

The description of the precise rôle played by loans in state school finance is a task which offers some difficulties. The presentation of the bookkeeping item of receipts from the sale of bonds and from short-term loans, the allotments to sinking funds, the repayment of bonds and other loans, and the payment of interest, involves possibilities of double counting and of a distorted view of what the true importance of loan policy has been.

The last column in Table 39 throws considerable light on the situation. It represents the amount by which the school system has "fallen behind"[2] each year. The item "Total Revenues" includes no receipts from loans and that of "Total Expenditures" includes no repayments of loans, by sinking fund or otherwise, but does include all interest payments, the amounts of which are shown in Table 1, page 30. The last column, headed "Balance," consequently shows the difference between what the school authorities spent in both current expenses and capital outlay and what they received from all sources except borrowings.

It appears from these figures that, taking the thirteen-year period as a whole, the aggregate revenue, as defined above, failed to cover the aggregate expenditure including capital outlay by $63,310,797. This difference was made good by resort to credit in various forms. For the first six years of the period the accumulated debit balances amount to 22 millions ($22,019,103); during the second six years the figure is 25 millions ($25,073,245).

For several reasons these figures cannot be expected to agree precisely year by year with the figures of receipts from bonds sold or with the figures of increases in outstanding bonds. Part of the difference is accounted for by temporary loans. The receipts from bond sales appear in these figures

[1] See p. 97.

[2] In the sense, merely, that current receipts have been insufficient to cover expenditures.

only as they are expended. There are also various refunding operations which would distort comparisons.

TABLE 39

TOTAL REVENUE FOR PUBLIC EDUCATION, CLASSIFIED ACCORDING TO FISCAL CHARACTER OF THE SOURCES — STATE OF NEW YORK, 1910–1922

For Years Ending July 31

Year	Taxes [1] (Federal, State, and Local)	Permanent Funds [2] (Interest)	Miscellaneous (Includes Tuition, Gifts, and Certain Interest Items) [3]	Total Revenues	Total Expenditures [4]	Balance (Debit — Credit)
1910	$56,679,512	$359,299	$164,729	$57,203,540	$59,626,228	—$2,422,688
1911	59,046,272	380,784	168,854	59,595,910	62,283,177	— 2,687,267
1912	66,864,802	370,591	203,489	67,438,882	68,737,101	— 1,298,219
1913	71,769,979	359,120	205,239	72,334,338	72,039,243	+ 295,095
1914	72,592,560	386,742	240,155	73,219,457	80,600,659	— 7,381,202
1915	75,681,646	390,382	244,825	76,316,853	84,841,675	— 8,524,822
1916 [5]	76,103,784	290,728	303,265	76,697,777	80,118,748	— 3,420,971
1917	80,269,002	407,487	351,670	81,028,159	81,859,971	— 831,812
1918	87,877,619	409,112	454,521	88,741,252	89,799,439	— 1,058,187
1919	96,067,470	408,411	660,487	97,136,348	98,701,237	— 1,564,889
1920	114,138,491	417,296	781,125	115,336,912	117,344,153	— 2,007,241
1921	158,130,246	382,403	777,209	159,289,858	175,480,003	—16,190,145
1922	178,038,706	408,414	1,368,840	179,815,960	196,034,409	—16,218,449

[1] For a subdivision of this column, see Table 41, p. 107. The item of local taxes consists almost entirely of property taxes levied and collected locally for school purposes. It contains, however, a small amount of receipts for mortgage and bank stock taxes, and, in 1921, a small amount of income tax.

[2] This represents the proceeds of the three permanent school funds which are distributed among the local districts.

[3] This includes tuition and fees from normal schools, State Department of Education, and common schools (not including tuition of non-resident pupils paid by the state or districts), gifts for educational purposes, and interest on educational funds other than the state permanent funds. The interest item is negligible. Under the classification used in the education reports, the local miscellaneous revenues, other than fees from the College of the City of New York and Hunter College, are not separately shown and have been estimated. The larger receipts from the fees of the two colleges mentioned account for much of the increase shown in this item in recent years.

[4] Total state and local expenditures are the sum of such expenditures reported by the state and local officials, respectively, with the exception of the state subventions reported by the State Comptroller. Since the subvention item appearing in this table is that reported by local officials and sometimes varies from the amount reported by the Comptroller, the sum of state and local expenditures, less the subvention items, will not always check precisely with the sum of state and local expenditures here given.

The term "Total Expenditures" includes capital outlay, interest, and current expenses, but excludes transfers, refunds, payment on bonds and temporary loans, and payments to such funds, and other non-governmental cost payments.

[5] The state's fiscal year was changed at this time so that certain of the state figures are for a nine-month rather than a twelve-month period.

Table 40 gives the gross outstanding bonded indebtedness for each year in the period, together with the annual variations in the amount. It will be observed that the increase in 1922 over 1910 is $85,853,843. The difference between this figure and the $63,310,797 is explained largely by unexpended cash balances at the end of 1922.

TABLE 40

TOTAL GROSS OUTSTANDING BONDED INDEBTEDNESS[1] FOR EDUCATION — STATE OF NEW YORK,[2] 1910–1922

Year	Gross Outstanding Bonded Indebtedness for Education	Net Annual Increases (+) or Decreases (−)
1910	$135,981,844	
1911	135,881,110	− $ 100,734
1912	139,845,165	+ 3,964,055
1913	143,381,744	+ 3,536,579
1914	156,551,007	+ 13,169,263
1915	162,292,016	+ 5,741,009
1916	161,755,973	− 536,043
1917	166,989,723 [3]	+ 5,233,250
1918	165,151,583	− 1,837,640
1919	165,942,841 [3]	+ 791,258
1920	169,054,408	+ 3,111,567
1921	186,171,173	+ 17,116,765
1922	221,835,687	+ 35,664,574

[1] Because of the difficulty of allocating to education its proper proportion of the total sinking fund in certain of the cities, and because of the inadequacy of the records in the case of certain districts, it proved impracticable to reduce this gross debt to a net basis. In the rural districts sinking funds are almost non-existent, the practice of issuing serial bonds being practically universal.

[2] The figures for the City of New York are for the calendar year in each case. Other figures are for the year ending July 31.

[3] In the years 1917 and 1919 the debt outside of the City of New York was arrived at by adding to the figure for outstanding bonded indebtedness for the year preceding, the receipts from bond sales for that year and subtracting the payments on bonds.

About two-thirds of the total bonded debt for schools has been incurred by the City of New York. In 1920 New York's share of the 169 millions of bonded debt was $126,652,938. Other cities in the state had incurred $29,300,000. A scant 13 millions was borrowed by the smaller political divisions. The relative importance of the school debt of the City of New York has declined materially during the past twelve years. This is explained in large part by the relatively small capital outlay in the city during this period.[1]

[1] The share of the City of New York in the total state school debt is shown by the following figures.

Year	Amount of School Debt of the City of New York	Percentage of Total State School Debt
1910	$118,476,386	87.12%
1911	117,613,273	86.55
1912	119,322,849	85.32
1913	123,649,848	86.24
1914	126,770,890	80.98
1915	130,986,509	80.71
1916	128,257,208	79.29
1917	128,989,723	77.24
1918	127,828,114	77.40
1919	126,942,841	76.50
1920	126,652,938	74.92
1921	137,160,824	73.67
1922	152,000,000	68.53

Although complete and precise information is not available, it is certain that only an inconsiderable fraction of the school debt is unfunded. The unbonded portion in 1920, for example, is reported at less than one million dollars, but this does not include figures for certain cities where the unfunded educational debt is not segregated in the accounts from the total temporary debt of the municipalities. If the ratio of such school temporary debt to the funded debt is similar in these cities to the ratio in the municipalities where educational debt is fully segregated, the aggregate amount of temporary debt is relatively unimportant. It will be noted from Table 40 that the bonded debt in 1920 stood at 169 millions.

School bonds may be legally issued in the State of New York only for refunding[1] and for capital outlay. During the thirteen years studied the total capital outlay was nearly twice the increase in bonded indebtedness ($85,853,843 as compared with $153,942,157). This does not mean, of course, that there were no specific instances of refunding. It does indicate, however, that during the thirteen-year period, 1910 to 1922, the aggregate current receipts for school purposes from all sources, other than borrowing, were sufficient to meet all current expenses, meet all interest charges, and pay for about one-half of the new sites, buildings, and equipment acquired during that period.

[1] Under the authority of subdivision 8 of section 877 of the Education Law certain classes of cities "may temporarily borrow the amount" necessary to meet special estimates submitted by the board of education, covering items for extraordinary expenses by means of "city certificates of indebtedness or by the issuance of revenue bonds, or other municipal bonds." The provisions of the city charters appear to supplement this section in some instances so as to give authority for the refunding of securities issued as temporary measures. Thus it is possible that in some cases bonds have been issued under special circumstances for purposes other than capital outlay.

CHAPTER VII

THE SUPPORT OF PUBLIC EDUCATION IN THE STATE OF NEW YORK—THE REVENUE SYSTEM

The preceding chapter makes it clear that $99 out of each $100 spent for public education in the state (disregarding borrowings) are raised by taxation. The 100th dollar is supplied by income from permanent state school funds, tuition, fees, and interest on miscellaneous funds.

Taxes for education are analyzed in Table 41 to show the amounts raised by various political divisions. Since federal funds for education account for less than one-half of one per cent of the total amount, it is unnecessary at this point to attempt any description of the federal revenue system. State taxes supply roughly twenty-five per cent, and local taxes seventy-five per cent, of the total school tax revenue. This section sketches briefly the system of state and local revenue which produced this 177 million dollars for school purposes in 1922 as well as 386 million dollars of taxes in addition for other public purposes.

TABLE 41

TOTAL TAXES FOR EDUCATION IN THE STATE OF NEW YORK CLASSIFIED BY POLITICAL DIVISIONS,[1] 1910–1922

For Years Ending July 31

Year	Federal Funds	State Taxes	Local Taxes	Total
1910	$ 68,000	$ 7,696,727	$ 48,914,785	$ 56,679,512
1911	75,000	8,037,811	50,933,461	59,046,272
1912	80,000	8,909,429	57,875,373	66,864;802
1913	80,000	9,443,355	62,246,624	71,769,979
1914	80,000	9,191,406	63,321,154	72,592,560
1915	116,587	9,545,064	66,019,995	75,681,646
1916 [2]	133,484	8,820,990	67,149,310	76,103,784
1917	157,355	9,610,273	70,501,374	80,269,002
1918	339,751	10,089,170	77,448,698	87,877,619
1919	431,168	11,012,905	84,623,397	96,067,470
1920	636,868	16,824,425	96,677,198	114,138,491
1921	672,158	38,992,211	118,465,877	158,130,246
1922	670,649	40,421,534	136,946,523	178,038,706

[1] For the precise contents of these figures, see footnotes to Table 35, p. 93, and Table 39, p. 104.

[2] The state's fiscal year was changed at this time so that certain of the state figures are for a nine-month rather than a twelve-month period.

The revenue system of New York as it now stands, consists of nine major taxes which may be grouped as follows:

Group One — (Property Taxes). Tax on real estate and certain types of personal property.

Group Two — (Personal Taxes). Personal income tax.

Group Three — (Business Taxes). Business corporation income tax, bank stock tax, stock transfer tax, miscellaneous corporation taxes.

Group Four — (Miscellaneous). Motor vehicle tax, inheritance tax, mortgage tax.

The administration and distribution of these various taxes are interwoven in rather a complicated manner. Diagram 6 shows the amounts yielded in 1922 by each of the nine taxes, the division of yield among the political divisions, and the authority collecting the taxes.

The outstanding fact is that the property tax yields nearly three times as much as the other eight taxes put together. Not only is it the tax which supplies three-fourths of all the tax revenue of the state and localities, but it is also the tax which is depended upon almost exclusively for school taxes. Consequently, it is desirable to describe somewhat precisely its character and its place in the revenue system.

The Property Tax. — The present property tax is predominately a real estate tax. The State of New York in earlier times, like almost all of the American states, attempted to impose a tax on property in general for the support of government in general. Much earlier than in most other states this tax began to disintegrate, and steps began to be taken to supplement it with taxes of other types. The development took the form of exemption of those types of property which had proved most difficult to assess, and the substitution of special taxes, designed to reach more effectively the tax-paying ability of the owners of the exempted property. Coincident with this movement there developed a tendency to impose taxes upon the business done in the state and to establish certain special taxes upon direct beneficiaries, such as the motor vehicle fees.[1] The evolution is still going on, and important changes are anticipated in the years lying immediately ahead.

In reducing the scope of the general property tax, and establishing substitutes, the state has followed the general rule of diverting all or a large part of the proceeds of the new taxes into its own treasury and decreasing its demands upon the property tax.[2] As a result of this movement the property tax is now 98 per cent [3] a real estate tax and is 94 per cent [4] a local tax.

[1] The system of local special assessments of land, to meet the cost of public improvements, is an important element in the finances of the municipalities, of which no account is taken in the figures as given in this section.

[2] See p. 157.

[3] In 1920 personalty amounted to only 1.72 per cent of the total assessed value of property. In 1870 it amounted to 22.05 per cent.

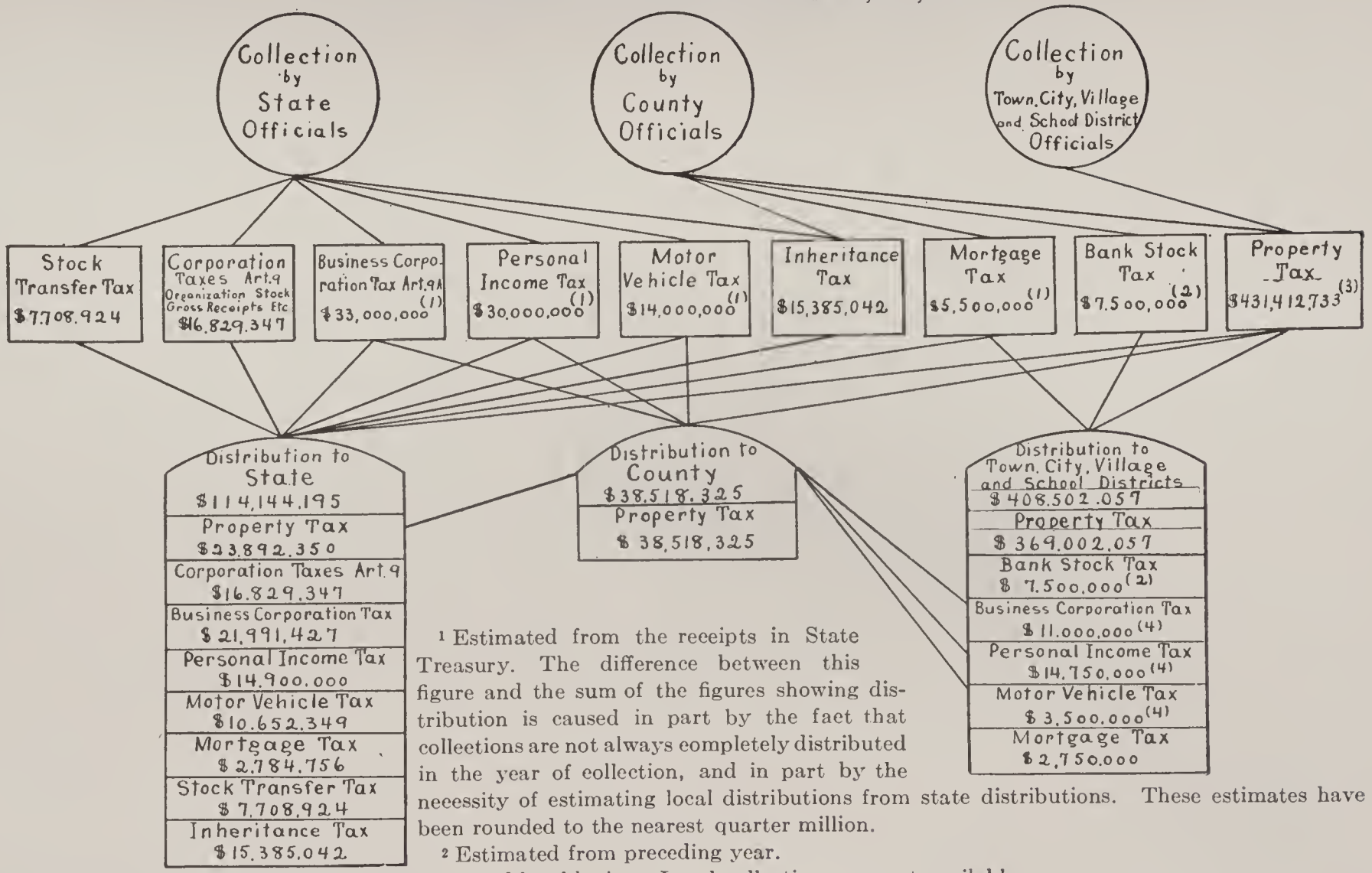
[4] In 1922, of $431,412,733 total property tax levied in the state, all except $23,892,350 went to the localities.

DIAGRAM 6

Collection and Distribution of State and Local Taxes — State of New York

For Fiscal Year Ending June 30, 1922

Total Collected for This Period $563,388,591[5]



[1] Estimated from the receipts in State Treasury. The difference between this figure and the sum of the figures showing distribution is caused in part by the fact that collections are not always completely distributed in the year of collection, and in part by the necessity of estimating local distributions from state distributions. These estimates have been rounded to the nearest quarter million.

[2] Estimated from preceding year.

[3] This figure is the sum of state collections and local levies. Local collections are not available.

[4] Estimated from receipts in State Treasury.

[5] This includes $2,052,545 from exeise, insurance premium tax, boxing exhibition and motion pieture taxes not listed separately in the diagram. The proceeds of these went to the state.

The property, other than real estate, which continues to be taxed under the property tax, is a mere remnant. It includes such personalty as farm animals and machinery, the stock-in-trade of unincorporated businesses and household furniture and personal effects of individuals in excess of $1,000.[1] Such property was assessed in 1920 at only a quarter of a billion dollars ($255,263,116)[2] out of a total property assessment of nearly 16 billion ($15,850,989,607). In 1922, a legislative committee recommended the entire exemption of personalty which would result in the property tax being transformed into a tax on real estate only.[3]

Classified as real estate, and subject to the regular property tax rates, an item is included in the various local assessment rolls representing the value of the "special franchises" of the public utilities of various types. This item (which is assessed by the State Tax Commission and apportioned among the localities for insertion in the assessment lists) covers first, the value of such tangible property of these companies as is situated in the public streets, and, second, the value of certain intangible elements in the franchise which are determined usually with reference to the earning power of the corporations. The importance of property taxes on public utilities can be gauged from the following statement of property taxes collected from public utilities in 1920:

Real property (in ordinary sense)		$25,104,965
Personal property		229,683
Special franchise (technically termed "real estate")		
Tangible (property in streets, etc.)	$9,435,385	
Intangible (based on earning power)	5,449,884	14,885,269
		$40,219,917

This special franchise tax on public utilities has a peculiar significance from the point of view of school finance. The value of the special franchise is apportioned for purposes of taxation among the local political subdivisions where the property of the utilities lies. It is clear that, at least in so far as the intangible element in the valuation is concerned, the special franchise tax is not a true real estate tax, but rather approaches the character of a business tax and that the arrangement has the effect of distributing a state business tax among the localities. The method of distribution is such that a school district which happens to have a railroad passing through it, receives what is virtually a special subsidy from the state in the form of this additional taxable assessment. This accentuates a situation which is already unequal. The Davenport Legislative Com-

[1] The tangible personalty of corporations which pay the capital stock tax (see Section 205 of the Tax Law) remains subject to taxation for local purposes.

[2] There is reason for believing that the smallness of this figure is due not merely to legal exemptions, but also, to illegal undervaluation and evasion. (See "Report of the Special Joint Committee on Taxation and Retrenchment, Submitted March 1, 1922," p. 43.)

[3] See pp. 45–46 in Report cited in note 2 above.

mittee [1] has recommended an entirely new method of taxing public utilities which, if adopted, will fundamentally change this situation. It should be noted that there is a tendency to value these special franchises fully — perhaps even to over- rather than under-assess them.

The state's share of the property tax is one which varies from year to year, depending upon the exigencies of the state's fiscal needs. This tax provides the elastic element in the state's revenue system. The rates of the income, business, and miscellaneous taxes are seldom changed and the yields depend upon considerations not at all identical with those which determine the size of the legislative appropriations. When the appropriations exceed the prospective revenue from sources other than the property tax, a sum sufficient to meet the situation is ordinarily obtained by a state-wide tax on property as locally assessed, after an equalization based upon information gathered by the State Tax Commission. In the period under consideration a state tax on property has been utilized in ten out of the thirteen years. The highest levy of the period was $35,006,523.91, made in 1920.[2] The receipts from these direct property taxes during the ten-year period 1911–1920 amounted to 19 per cent of the total state receipts for general purposes.[3]

It should be made clear that the amounts supplied by state taxes, as shown in Table 41, are paid from the state's general fund, which is derived from many sources. They are by no means the specific product of certain particular state taxes, whose entire yields are dedicated to educational purposes alone. It is true that during the fifty-year period, 1851–1901, a special state school tax was imposed — a levy on property. Since 1901 no specific tax for school purposes has been imposed by the state, the only close approach to specific school taxes being the levies used since 1920 for state-wide increases in teachers' salaries. These levies are often popularly referred to as direct school taxes. The funds for these salary increases have come from a direct state property tax which has been alluded to in some of the records and reports as a specific school tax. There appears to have

[1] "Report of the Special Joint Committee on Taxation and Retrenchment, Submitted March 1, 1922," p. 92 *et seq.* The Rural School Survey has based its recommendation of a larger school district in part upon the greater equality which would result from distributing the public utility franchise valuations over a larger area. Report, 1922, p. 234.

[2] The amounts of the state "direct" tax on property were as follows:

1910 . . .	none	1914 . . .	none	1918 . . .	$13,272,069.00
1911 . . .	$6,072,766.48	1915 . . .	$20,519,715.51	1919 . . .	13,523,503.27
1912 . . .	11,022,985.91	1916 . . .	none	1920 . . .	35,006,523.91
1913 . . .	6,460,093.12	1917 . . .	$13,058,752.65	1921 . . .	22,340,343.66
				1922 . . .	31,508,336.29

Because the fiscal year of the City of New York covers a different period from that of the state fiscal year the figure of levies actually extended on the rolls by the localities does not agree precisely with the levy figures as given above. The 1922 figure is for levies extended on the rolls. The actual collections reported in the State Comptroller's Report differ from either of these because the levy is not all collected the same year.

[3] "Report of the Special Joint Committee on Taxation and Retrenchment, Submitted March 1, 1922," p. 39.

been no statutory authority for considering this a special school tax. It is true, however, that it was clearly understood by the legislators, and by the proponents of the bill, that the increases in teachers' salaries would involve an addition to the state direct tax, and in this sense it may be considered a specific state tax for schools.

Though the property tax is a variable and diminishing source of state revenue, it is both a constant and increasing source of local revenue and of school support. It has been seen[1] that the localities carry three-fourths of the financial load of public education, and that the tax which supplies the money is the local property tax.

The assessment of property is a local function, except for the activities of the State Tax Commission in assessing special franchises of corporations, in coöperating informally with local assessors, and in assisting in the equalization of local assessments for purposes of apportioning the state direct tax. The assessors are town, village, or city officials, elected for a term of two or four years, except that under permissive legislation, a few cities (including the City of New York) have improved their assessment machinery by appointing their force of assessors on the merit basis for an indefinite term. All tax levies — school, municipal, and state, are extended on the same assessment base, subject to equalization.

The control of the amount of school tax to be levied rests in most sections of the state with the local board of education or board of school trustees, which, with a few exceptions, is an elected body.[2] These boards of education, except in a few cities, have complete independence in making up the school budget, fixing the school tax rate,[3] and controlling expenditures.

In most cities school taxes are collected with other city taxes by the city collector, and all school funds are kept with city funds by the city treasurer, subject to written orders from the board of education.[4] This is the general rule in other types of municipalities except that the union free school districts[5] and the rural school districts have their own school tax

[1] See p. 92.

[2] In the cities of Albany, Beacon, Binghamton, Buffalo, Cohoes, Cortland, Fulton, Glen Cove, Hudson, Kingston, New Rochelle, New York City, Niagara Falls, Oneida, Oneonta, Oswego, Poughkeepsie, Rensselaer, Schenectady, Tonawanda, Troy, Watertown, Watervliet, White Plains, and Yonkers, boards of education are appointed by the mayor or common council or both. In Elmira, Little Falls, Middletown, and Plattsburg some of the members are appointed. New York State Bureau of Municipal Information, Report Number 712.

[3] For a statement as to the extent to which these bodies are independent of the general municipal authority, and for a general discussion of separate financing, see p. 177.

[4] School taxes are collected at a different time of year from other taxes in Auburn, Batavia, Canandaigua, Corning, Dunkirk, Elmira, Geneva, Glens Falls, Gloversville, Hornell, Ithaca, Jamestown, Johnstown, Kingston, Lackawanna, Lockport, Mechanicville, Norwich, Olean, Oneonta, Port Jervis, and Sherrill. School taxes are collected with other taxes, but segregated so that taxpayers may know the amount of the school tax, in Fulton, Little Falls, Mount Vernon, North Tonawanda, Ogdensburg, Rensselaer, Utica, Watertown, and Yonkers.

New York State Bureau of Municipal Information, Report Number 712.

[5] Where the limits of a union free school district are not coterminous with a village this is true, but if the limits are coterminous the law specifies that the village collector shall collect the school taxes.

collectors, appointed by the school board in the former case, and elected by the school electorate in the latter. Most of the school taxes are paid to these collectors, but taxes levied on public utilities in these districts may be paid to the county treasurer instead of to the district collector, and the county treasurer must remit to the district the amount of all delinquent taxes on real estate, and then proceed to collect them. Delinquent public utility taxes, on the contrary, are collected by the school tax collector. The district collector receives a fee of one per cent on all taxes, whether he succeeds in collecting them, or whether they are finally collected by the county treasurer, and five per cent on all delinquent taxes which he himself collects.[1]

The Personal Income Tax. — In 1919 New York established a personal income tax which in 1922 supplied 30 millions of revenue. This tax applies to the total income of residents of the state, and to certain types of income arising within the state belonging to non-residents. Consequently it is not simply a comprehensive personal income tax but is, to a limited extent, a business income tax as well, so far as non-residents are concerned.[2]

The rates are progressive, ranging from one per cent on the first $10,000 to three per cent on income in excess of $50,000. The personal exemptions are $1,000 for a single person, $2,000 for husband and wife plus $200 for each dependent. The yield, after administrative expenses are paid, is equally divided between the state and the counties, the local distribution being apportioned according to the proportion that the assessed value of the local real estate bears to the aggregate assessed value of the real estate in the state. This plan of distribution has proved to be a strong stimulus to full real estate assessments. The definition of income follows very closely the federal Revenue Act of 1918. The administration is centralized under appointed state officials who have built up a permanent corps of assistants.

The Business Taxes. — The present system of business taxes in New York State is elaborate and complicated. Corporations, in general, are taxed on their net income at the rate of 4.5 per cent.[3] This tax, first established in 1917, yielded 33 millions in 1922. Since dividends from corporations paying it are not exempt under the personal income tax, the corporation income tax becomes a true business tax. The income as reported for purposes of the federal income tax is used with certain slight modifications as the base for the tax. The administration is centralized

[1] Since the above paragraph was written a new law provides for more adequate notice of assessments of school taxes upon public utilities and provides an additional fee of one per cent for county treasurers collecting such taxes.

[2] This business tax element will be readjusted in case the recommendations of the Davenport Committee are adopted. The personal income tax will then become strictly a personal tax.

[3] 1919 amendments to the 1917 law expanded the scope of the application of the mercantile and manufacturing corporation tax law and raised the rate from 3 to 4.5 per cent.

under the State Tax Commission and the yield is divided, two-thirds to the state and one-third to the localities in which the tangible personal property of the corporations is located.[1]

Banks are not taxed under the corporation income tax, but are subject to taxes based mainly on the value of the capital stock and surplus.[2] Originally the bank-stock tax was part of the general property tax, but in the course of evolution it has come to partake of the character of a business tax. The rate has become conventionalized at one per cent.[3] The entire yield of taxes on shares of state and national banks goes to the localities. The entire yield of taxes on trust companies, savings banks, and investment companies goes to the state.

The stock transfer tax is a tax of two cents per one hundred dollars, face value or fraction thereof, on all transfers of stock. The yield in 1922 was nearly eight millions, all of which went to the state.

In addition to the business taxes listed above, there are miscellaneous corporation taxes, falling chiefly on public utilities, levied on varying bases, which in 1922 yielded the state treasury nearly 17 millions.[4]

Miscellaneous Taxes. — Motor vehicle taxes are designed to throw directly upon the users of the roads a part of the cost of providing road facilities, on the ground that the user receives a special benefit. These taxes yielded 14 millions in 1922. Three-fourths of the yield is kept by the state and spent for the maintenance and repair of improved roads. Each county receives one-fourth of the collections from residents of the county, to be used for permanent construction or improvement of town highways.

The proceeds of the inheritance tax, which the state does not share with local units of government, amounted to 15 millions in 1922. The rates range from one to eight per cent, depending upon the size of the beneficial interest in the estate and the nearness of kin of the recipient. The initial exemption is $5,000 in the case of heirs most closely related to the decedent, and $500 in the case of others.

The mortgage-recording tax, which yielded five and one-half millions in 1922, is evenly divided between the state and the localities. The tax consists of a fee of fifty cents for each $100 of principal debt secured by mortgage on real property situated within the state. The share going to

[1] In case the corporation has no tangible personalty, the location of the main office of the concern within the state determines the distribution.

[2] Since this paragraph was written the bank taxes have been revamped as the result of unfavorable court decisions. Dividends on bank stock are no longer taxed under the state personal income tax and "moneyed capital" in competition with national banks, even if owned by individuals and partnerships, is subject to the tax.

[3] In the case of national and state banks, the tax is technically on the shares. In the case of trust companies, the tax is on the institution itself. Investment companies and savings banks are subject to taxation on a slightly different basis from the other financial institutions. See Davenport Report, p. 183.

[4] The Davenport Committee has recommended a new unified public utility tax law, and the extension of the business income tax to include unincorporated businesses.

the localities in which the mortgaged property lies is apportioned according to the assessed value of property.

In addition to the taxes described above, the localities receive substantial sums from special assessments levied to pay for local improvements and from miscellaneous licenses and fees.

This, then, constitutes the state and local tax system as it now stands. A critical evaluation of the system from the point of view of its adequacy to meet the demands of the educational needs of the state will be found in a later section of this report (pp. 156–176).

CHAPTER VIII

THE PRESENT AND PROBABLE FUTURE TOTAL COST OF EDUCATION IN THE STATE OF NEW YORK

The figures presented in the earlier chapters of this report relate entirely to tax-supported public education. In this chapter an estimate is presented of the total cost of all education in the state, including the cost of those institutions which receive no support from the public treasury. Estimates are also given regarding the cost involved in the acceptance of certain higher standards, and the probable growth of the aggregate cost of education in the years lying immediately ahead.

Aggregate Cost of All Education in the State in 1921. — The option which exists of stating aggregate costs in terms of cash disbursements or in terms of annual accrued economic cost has already been discussed in Chapter III (pp. 31–36). The following estimate of aggregate cost of education in the state for the year 1921 is in terms of the accrued economic cost for that year, which means that "money's worth used up" during the year rather than mere cash disbursements is the basis of the computation:

The Public School System:

1. Cash disbursements for current expenses . . .	$148,115,510	
2. Cash disbursements for interest on outstanding indebtedness	6,578,355	
3. Imputed interest on money invested in plant [2] not accounted for by interest on outstanding indebtedness	6,930,724 [3]	
4. Estimated depreciation on buildings and equipment	6,127,870 [4]	
		$167,752,459

[1] Includes tax-supported institutions of higher education.

[2] As used in this chapter "plant" includes sites, buildings, and equipment, unless otherwise specified.

[3] This figure represents the total imputed interest charge on the public school plant minus the cash disbursements for interest. The rate used in the calculation of imputed interest was 4.54 per cent. For the manner in which this rate was calculated see Chapter V, pages 87–88.

[4] The technique used in determining depreciation is fully explained in Chapter V, pages 82–87.

Private and Parochial Elementary and Secondary Schools:		
1. Estimated current expenses[1]	$24,552,000	
2. Imputed interest on investment in plant[2]	2,539,566	
3. Estimated depreciation on buildings and equipment	1,070,344	
		$28,161,910
Non-Tax-Supported Institutions of Higher Education:		
1. Cash disbursements for current expenses	20,388,740	
2. Imputed interest on investment in plant	2,451,861	
3. Estimated depreciation on buildings and equipment[3]	980,744	
		$23,821,345
Total		$219,735,714[4]

Of the total of $219,735,714 here arrived at, 80 per cent represents actual dollars paid out and only 20 per cent rests on estimates.

The foregoing figures may be grouped as follows:

Current expenses	$193,056,250
Interest (including imputed)	18,500,506
Depreciation	8,178,958
Total	$219,735,714

It should be noted that a portion of the current expenses amounting to 12.7 per cent is estimated. If one should substitute interest actually paid for the interest figure of $18,500,506 given above (which includes imputed interest on owned plant) and should substitute new capital outlay during the year for the depreciation figure, as given above, the calculation would be changed thereby from the accrued economic-cost basis to a cash-disbursement basis.

[1] A study was made of the attendance of private and parochial schools, partly from reports which were furnished to the Inquiry, and partly by checking these figures with a careful study of the total number of children attending school, as shown by the Census, in relation to the number attending public schools. An assumption was made that the average daily attendance in private and parochial schools bore the same relationship to the number enrolled as does the average daily attendance in public schools to their enrolment. The estimates showed 289,500 children enrolled in elementary schools, and 33,500 pupils enrolled in secondary schools conducted under private auspices. Correcting these figures to average daily attendance, it is estimated that the average daily attendance in private and parochial elementary schools is 231,600, and 26,800 in secondary schools. Applying a charge of $89 per pupil in average daily attendance for elementary schools and $147 per pupil in average daily attendance in secondary schools (the cost figures for public schools) the estimated economic charge against the people of the State of New York for the current expenses for private and parochial schools is estimated to be $24,552,000. Of this amount $20,612,400 is the estimated charge for elementary schools, and $3,939,600 the estimated charge for schools of secondary grade.

[2] It is estimated that the investment in plant and equipment is as much per pupil in average daily attendance in private and parochial as for pupils in public schools.

[3] This calculation is made by assuming that of the total value of the plant, 21 per cent should be charged to sites, 71 per cent to buildings, and 8 per cent to equipment. This is the ratio found for sites, buildings, and equipment for tax-supported schools when an average for twelve years is taken. Depreciation on buildings is figured at 2 per cent annually and on equipment, 5 per cent annually. On this basis the estimate allowed for depreciation on buildings is $765,196 and on equipment, $215,558.

[4] The annual plant charge against the resources of the community is indicated by the three items: — (1) interest on indebtedness, (2) imputed interest on total capital invested in the school plant minus the interest paid during the year on money owed on it, (3) an annual charge for the depreciation of the plant. This does not take account of the increase which must be expected in all of these charges due to larger enrolment or other expansion of the school system. The demand of the schools for large amounts of capital each year must be met out of the capital fund available, but this amount is not properly considered as an annual charge. The interest and depreciation charges measure more satisfactorily the annual cost to the community.

Estimated Costs Involved in the Enforcement of Legal Requirements and the Acceptance of Higher Standards. — If certain commonly-accepted standards were to be made to prevail throughout the State of New York, and if certain legal requirements were to be fully enforced, additional charges would have to be met in support of the public school system. For example:

1. If trained teachers were provided for all the schools of the state, and if a sufficient number to supply this requirement were graduated from the state schools for the training of teachers each year, the additional charge for the training of these teachers would amount to $1,983,519 per year,[1] for current expenses only.

2. If the continuation school law were fully in effect,[2] it is estimated that there would be 196,147 students in attendance upon these courses. Assuming an average attendance of four hours a week, which is the minimum required by law, and forty weeks in the school year, and assuming a cost of 15 cents per hour,[3] a total estimated cost for the maintenance of continuation schools of $4,707,528 is arrived at.

3. If kindergartens were established in cities and villages, not now providing this type of education, excluding rural areas, and if children attended these kindergartens in the same ratio to enrolment as in systems maintaining kindergartens, it is estimated that the additional cost to the people of the State of New York would amount to $254,230. This does not express the possible increase in current expenditure for kindergartens were they provided for *all* children of kindergarten age. It is probably true that, in all of the communities maintaining kindergartens, the attendance would be much larger were more kindergartens maintained. Any material increase in attendance would, of course, necessitate additional expenditures for new buildings.

4. If the compulsory school age were extended downward to include all children six years of age and over, the additional current expense would be approximately $1,800,000. In villages of under 4,500 inhabitants, and in rural schools, the compulsory age begins at eight; in the larger communities at the seventh year. By taking the number of children now in attendance of the first compulsory age group (that is, eight years of age in places having 4,500 inhabitants or over, and seven years in others), and by assuming that if the compulsory law included children of the lower age groups, at least as many more would be enrolled and schools for them would cost about as much as for the older children, it appears that to

[1] Standard training for elementary school teachers is assumed to consist of high school graduation plus two years of professional training. For high school teachers, standard training is assumed to involve college graduation, preferably including special professional training as a part of the four-year course. This estimate is based upon a calculation which shows the average teaching life of the graduate of a normal school to be 10.5 years, and of a graduate of the schools preparing secondary school teachers to be 7.15 years.

[2] This law goes into full effect in 1925.

[3] This estimate seems reasonable in the light of the evening school costs presented on pages 67–70.

extend the compulsory school age to include children six years old would involve an additional current expenditure of $1,770,230.

5. A capital outlay charge should be added to these estimated increases which would be involved in providing adequate school accommodations for all children within the state. In the City of New York, on December 31, 1922, there were 355,162 pupils on double session, or short time. If, for the moment, it be granted that the buildings in which these children are housed are suitable for the purpose for which they are now being used, a full day's session for all of these children would require, even though half of the children be permitted to continue use of the old buildings, that new space be provided for the remaining half — or 177,581 pupils. It is estimated that in the City of New York there are in the over-size classes 47,805 children, accepting forty children per class as a standard. If this standard were to be maintained, new accommodations would have to be provided for these children. If accommodations were provided for 177,581 plus 47,805 or 225,386 children at $500 per pupil, the capital outlay necessary would amount to $112,693,000. If this money were obtained by issuing 4.5 per cent bonds, the interest charge necessary to carry this capital outlay would amount to $5,071,185 per annum. Counting the life of these buildings as 75 years, there would be a yearly depreciation charge of $\frac{1}{75}$ of the entire estimated capital outlay, or $1,502,573. For both interest and depreciation the total annual charge for the City of New York would be $6,573,758.

The communities outside of the City of New York have approximately 70 per cent as much invested in buildings as has the City of New York. If the need for new buildings to accommodate children on part time and in over-size classes is figured as 70 per cent of the $112,693,000, estimated as required to supply the City of New York in this regard, the charge for new structures outside of the City of New York would amount to $78-885,100. Charging 4.5 per cent interest for this capital investment required, and estimating the life of the buildings to be 75 years, with a yearly depreciation charge of $\frac{1}{75}$ of the entire estimated capital outlay, gives an estimated charge, to provide facilities for the state outside of the City of New York, which amounts to $4,601,631.

This estimated cost is probably too low, rather than too high, since, in practically all of the communities throughout the state, buildings are now in use which should be abandoned and replaced by more adequate school accommodations. This estimated annual charge for additional plant for the entire state, including the City of New York, totals $11,175,389.[1]

To recapitulate, were fully equipped teachers to be provided, the continuation school law to be fully in effect, kindergartens more commonly established, all children of six years of age enrolled in schools, and school

[1] This does not include sites.

buildings erected to accommodate the children now on part time and those in over-size classes, the estimated annual increase in costs to be met by taxation would be as follows:

1. Annual current expense for the training of teachers to replace those who quit the service in 1921, assuming all who enter have standard training	$ 2,212,090
2. Annual increase in current expenses for trained teachers over salary paid to those not having standard training	1,293,600[1]
3. Annual interest charged on capital outlay necessary to provide increased accommodations in institutions for the training of teachers	172,800[4]
4. Annual depreciation charges on account of these buildings[2]	51,200
5. Annual estimated current expenses of continuation schools were the law fully in effect[3]	4,707,528
6. Annual estimated increase were kindergartens more commonly provided	254,230
7. Annual estimated increase in current expenses were all children of six years of age enrolled in school	1,770,230
8. Annual charge required to carry increased accommodations needed for part-time and over-size classes	11,175,389[4]
Total	$21,637,067

In making these estimates it is assumed that population will increase. There is also an assumption that, as has been true in the past, special types of education will be introduced, or special activities added to the present program. Increases in expenditures during the past twelve years are partly accounted for by legislation which has required evening schools and continuation classes, medical inspection, physical education, and the like.

Estimates of Probable Future Increases in Costs

In arriving at a defensible estimate of the cost of public education in the State of New York during the next few years, it seemed best to be guided by the cash disbursement figures determined for the thirteen years from 1910–1922. The study has not included data for years previous to 1909. The technique of arriving at these estimates is shown graphically in Diagram 7.

The total cash disbursements for each of these thirteen years are plotted on the diagram. Then the straight line which best fitted this series of

[1] This figure is arrived at by taking the number of trained teachers replacing those with less than standard training, and multiplying by the difference in the middle-case salary now received by those in the two groups.

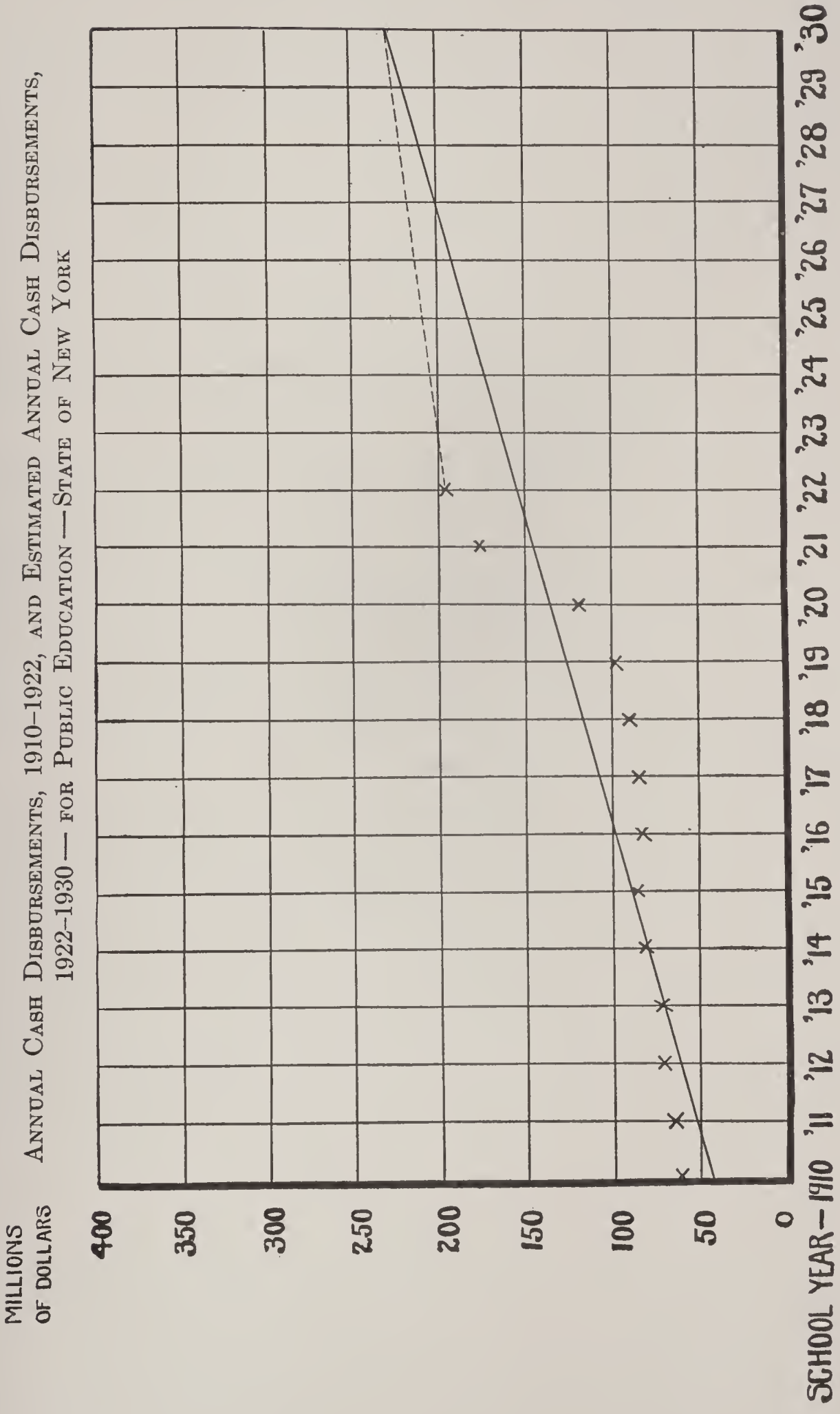
[2] It is estimated in determining the charge on account of capital outlay and depreciation that increased accommodations would cost $750 per pupil. Allowance was made for the fact that considerable numbers of pupils enter but do not graduate. These figures were secured by taking the enrolments of normal schools and the state teachers' college as a basis for determining the number that would have to be enrolled in order to provide a given number of graduates.

[3] In arriving at the number of persons who would be compelled to attend continuation schools, data were available for the number in each age group affected, and from school enrolment figures for both public and private schools. A further correction for those not competent to receive such instruction was made.

[4] Not including sites.

DIAGRAM 7

ANNUAL CASH DISBURSEMENTS, 1910–1922, AND ESTIMATED ANNUAL CASH DISBURSEMENTS, 1922–1930 — FOR PUBLIC EDUCATION — STATE OF NEW YORK



KEY: ××× Annual Cash Disbursements, 1910–1922
—— Line of Best Fit, 1910–1922
--- Estimated Annual Cash Disbursements, 1922–1930

points was plotted and projected across the diagram to be used as a basis for estimating probable future disbursements.[1]

It is noted that the disbursements for the first three years of the period fall above the " line of best fit," that throughout the period from 1915 to 1920 the disbursements are distinctly below this line, but in 1921 and in 1922 are noticeably above the line.

During the years 1915–1920 little building was done and as a consequence the school systems of the state actually ran behind in providing school accommodations for their children. There was a revival of building in 1921–1922 with a corresponding increase in cash disbursements. It is probable that expenditures for buildings will continue to increase somewhat during the next few years. It is a fair assumption, however, that the actual cash disbursements over the period of years just ahead will gradually return to the " line of best fit."

Following the curve as plotted in terms of cash disbursements actually made, it seems reasonable to expect that this curve will approach or meet the " line of best fit " not later than 1930. On the basis of this assumption the dotted line is drawn. The cash disbursements for 1925 and for 1930 as located on this dotted line are $207,400,000 and $226,400,000 respectively. These figures give the best estimate that can be made with the data that are available. Of course no one would deny the possibility of greater increases in disbursements than these here estimated. It is best, however, to make estimates based on known facts.

The total annual accrued economic cost to the people of the State of New York for the maintenance of all schools, tax-supported and non-tax-supported, exceeded in 1921 the cash disbursements for tax-supported schools by $44,255,711. If this amount is added to the estimated cash disbursements, a total accrued economic cost for all schools, tax-supported and non-tax-supported, of $251,655,711 for 1925, and $270,655,711 for 1930, is found. It is also estimated on page 120 that the enforcement of certain legal requirements and the acceptance of certain high standards would involve an annual charge of $21,637,067.[2] If this additional charge is added, the estimated totals for 1925 and 1930 become $273,292,778 and

[1] The "line of best fit" is known in statistics as a regression line. It is determined by the formula —

$$x_1 = r_{12} \frac{\text{S. D.}_1}{\text{S. D.}_2} x_2$$

in which x_1 is the deviation in millions of dollars for the average disbursements for the thirteen years, x_2 is the years of deviation from the middle year of this period, r_{12} is the correlation coefficient between the disbursements and the dates, and the S. D.$_1$ and S. D.$_2$ are the respective standard deviations of the distributions of expenditures and dates.

[2] It is to be noted that the estimated increases in expenditures, calculated upon the basis of cash disbursements, do not include increases in expenditure which may be involved, if certain standards are accepted and carried into effect. On the other hand, the estimates on the basis of cash disbursements indicated by the "line of best fit" do allow for increases in population and for the growth of the number of those availing themselves of school facilities. For example, increases in high school attendance are allowed for in the estimated increases in cash disbursements, while the adoption of a kindergarten program more generally throughout the state is added as a special possible increase in expenditure in this separate item of $21,637,067.

$292,292,778 respectively. These estimates assume that the difference between the disbursements as estimated for tax-supported schools, and the annual accrued economic cost for all schools maintained within the state, will remain constant. If for any reason the annual accrued economic cost for the non-tax-supported schools should increase at the same rate that the disbursements for tax-supported schools increase, these estimates would be too low.

PART TWO

RESOURCES FOR MEETING THE PROGRAM

CHAPTER IX

ECONOMIC RESOURCES OF THE STATE OF NEW YORK COMPARED WITH EDUCATIONAL EXPENDITURES

PART ONE of this report culminates in an estimate which represents the best judgment of the Commission as to the size of the probable financial demands of public education in the State of New York in the years which lie immediately ahead. In connection with the establishment of this estimate certain facts have been presented bearing upon, first, the precise character of the financial program; second, the amounts which are actually being spent for education, classified so as to show in some detail where the money is going; and third, the manner in which this money is being raised.

As has been said above,[1] the Commission is committed to attempt more than this. So far as the means at its disposal and the character of the problem permit, it must study the resources and limitations which surround and underlie the proposal to dedicate a sum of such proportions to the purposes of public education.

The size of public expenditures in general, and of educational expenditures in particular, has recently evoked much public comment. Some of this comment has taken the form of definite predictions of economic disaster. It is not, of course, within the province of this Commission to suggest how much the State of New York can afford to spend for education or for other public purposes. All it can properly undertake is to analyze the problem resulting from the public expenditure of these large and growing sums. Such an analysis is here attempted, in the hope that it may throw light upon the true character of the limitations which are becoming so painfully apparent in many parts of the state.

What a state can spend for education depends upon many factors. But there are six very important factors that should be set forth:

1. The first and foremost is the state's economic strength and vigor, since a rich and thriving community is able to afford more of everything than a poor and decadent one.

2. It depends upon the disposition of the people of the state toward the fruits of the educational process. A community which values education highly will spend a larger share of its economic resources to obtain it than will be spent by a second, equally strong community, which places education lower in its scale of values.

[1] See pp. 120–124.

3. Again, what the state can afford to spend for education may be affected by the manner in which the state is districted and the manner in which educational functions are distributed. Clearly, if the state is divided into very small districts, which are required to perform all the functions connected with educating their youth, and to meet the entire cost from resources within their boundaries, the resources in the poor districts may be strained to the limit to provide a meager educational offering, while the rich districts may be able to finance an elaborate program without perceptible effort. On the other hand, a complete pooling of all the economic resources of the state, in support of a state-wide program, might enable the state to spend a much larger aggregate sum for educational purposes in less favored communities, and thereby more nearly equalize the burden of support than would be possible under a localized, small-district organization of the educational system where the burden of support even in adjoining districts or counties may be greatly unequal.

4. In the fourth place, if the revenue system of the state be so crudely devised, or so faultily administered, that an increase in taxes results in serious injustices and friction, the tax system itself may be a limiting factor even though economic resources be adequate and the desire for education strong.

5. Another factor which may affect the problem is the confidence which the community has in the skill with which the school system is organized and administered. A conviction, just or unjust, that educational funds are being wasted or mismanaged may serve to prevent a community from sanctioning an educational program which it very much desires and could well afford to support. On the other hand, a school that commands the interest of the community and is a center of inspiration to adults, as well as to children, in building a better and more productive community will be supported more willingly.

6. Finally, the limiting factor may be a weakness in the governmental arrangement for interpreting the desires of the community with respect to the educational program. It is important that the mechanism by which the community registers its decisions as to what it really wants in education should be made as perfect as possible.

These six factors are perhaps the most important in determining the amount which the state can spend for education. The remaining pages in this report will be devoted to a discussion of some of these factors with special reference to the situation existing in the State of New York. The object is to make a diagnosis rather than to write a prescription or to formulate a program of action.

Turning first to the economic aspects of the situation, the rest of this chapter presents the most important facts regarding the economic resources of the State of New York, and compares the growth of these resources in recent years with the growth of expenditures for public educa-

tion. The specific question it seeks to answer is whether these expenditures are absorbing a larger proportion of the community's resources and effort than was formerly the case.

Economic Resources in the State of New York, 1910–1922. — The difficulties of measuring economic resources in the State of New York are obvious. Two of the most commonly used indices are aggregate wealth and income, but it should be borne in mind that wealth and income are used as separate and distinct measures of economic resources. It should not be inferred that the income is to be added to wealth to secure a resultant representative of resources. Unfortunately, except for real estate values, satisfactory data relating to the wealth of the State of New York are entirely lacking and the figures representing the income of the people of the state are merely careful estimates.[1]

The only comprehensive appraisal of the wealth of the state is that of the federal census, the state itself making no attempt at a general valuation of property.[2] The results of the federal census of wealth are almost entirely worthless for purposes of this study,[3] except to show roughly the

[1] The phrases "wealth of the State of New York" and "income of the people of the state" are used deliberately in order to emphasize the basis upon which the figures rest. The appraisals of wealth, as, for example, that of the federal census, present estimates of the value of tangible property lying within the boundaries of the state. The income figures, on the other hand, represent the income accruing to the people domiciled within the borders of a state, irrespective of the jurisdictions in which the income actually arises. This is a distinction which lies at the root of the legal rules of situs (location) which control the attempts of a state to utilize wealth and income as subjects of taxation. The ordinary rule of situs, governing the taxability of property, may be roughly stated thus: that tangible property takes its situs for tax purposes from its physical location and that intangible property follows the person of the owner. In other words, a state has the power to tax tangible property lying within its borders, irrespective of whether such property is owned by residents or non-residents, and a state may tax the intangible property of its residents, irrespective of whether such property is included within its borders or not. It is clear that to count as the total wealth of the state the sum of all tangible property within its borders, and all of the intangible property of its residents, irrespective of its location, would involve in the aggregate a large amount of double counting, because of the fact that intangible property, such as bonds, mortgages, etc., which are evidences of wealth rather than the wealth itself, represents, in large measure, claims to tangible property.

The various states in elaborating their property tax systems, under the rules of situs outlined above, have become involved in a serious problem of double taxation, many states attempting to tax all intangible property owned by residents of the state as well as all tangible property located within their borders, with varying and often inadequate provision for deduction of debts. The recent developments in the direction of state tax reform have included measures for correcting this situation by restricting the property tax to tangible property and substituting state income taxes for the old taxes on intangible personalty.

A state imposing a tax upon personal income may tax the total income received from the individuals resident within the state, irrespective of the location of the sources of such income; the rule following that of the intangible property tax. A state also has the legal right to tax business income arising from business carried on within its borders, and, in increasing numbers, states are introducing taxes based upon business income which follow this rule of allocation.

Theoretically it would be possible to obtain a figure which would represent the wealth of the *people* of the State of New York, but this would involve an appraisal which would, by individuals, list the value of their assets and liabilities, irrespective of their physical location, and arrive at a figure of net worth. An aggregation of these net-worth items would give a figure of interest and significance, but the statistics are not gathered in a form which makes possible the presentation of such a figure.

[2] As has been explained above (p. 108) the tax system has been so changed as to avoid almost completely the necessity of valuing any property except real estate.

[3] The only figures at present available relate to the year 1912, and corresponding figures for 1922 will not be available before 1924. Consequently it is impossible to secure from this source a picture which is at all representative of present conditions or present trends in the state. Even if the 1922 figures were available,

relative importance of real estate values. The federal figures indicate that in 1912, real property accounted for 16.9 billions out of a total valuation of 25 billions of dollars, or more than two-thirds of the total wealth in the state. But, even though real estate values be the most important single element of wealth, and though they are used in this study as a measure of wealth, it by no means follows that their rate of increase measures accurately the increase of wealth in general. Indeed, there are certain facts which render it extremely probable that economic resources have increased at a considerably faster rate during the period than would be indicated by the rise in real estate values from eleven to seventeen billions.

In the first place during this period there was a large increase in the burden of taxation on real estate, the tax per $1,000 of full value in 1921 being nearly 50 per cent greater than it had been in 1911.[1] Since a large portion of the 16 billions of real estate value consists of land values [2] which tend to diminish as the rate of tax increases, it may be concluded that the figure of full value of real estate should be revised upward, if it were to be accepted as a true index of the trend of the growth of economic resources of the state.

Moreover, since the valuation of land is an appraisal which involves the use of an interest rate, it becomes important to take into account the variations in that rate. During the period under consideration there has been a distinct upward movement of interest rates which would tend to depress land values, as well as other property values, and render a comparison of present values with those of a decade ago even less representative of the real growth of the economic strength of the community than they would otherwise be.[3]

On the other hand, the retardation in the normal rate of construction during the war and the high cost of building which has recently obtained have been forces operating to appreciate the value of existing improvements. Forces such as these cannot be accurately measured, but they

it would not be possible, in the opinion of competent students of the problem, to attach any high degree of significance to them because of the known difficulties of appraisal and the only approximate success which the census has been able to achieve in carrying through the work.

[1] The taxes per $1,000 of real estate value (full value) have varied during these years as follows:

1911	$17.23	1915	$17.08	1919	$21.07
1912	19.06	1916	18.13	1920	21.74
1913	17.33	1917	18.60	1921	25.60
1914	20.96	1918	19.88		

[2] In the generally accepted economic analysis the value of land is determined by the present value of the expected future net income arising from the possession of such land and a tax placed upon the land and coming from the land rent would not be shifted forward, but would be borne by the owner of the land, the net result being a diminution in the selling value of the land to the extent that the increased tax diminished the prospect for *future net income*. It is, of course, impossible to say what the expectation was in 1910, which resulted in the valuations of the property obtained at that time. It is scarcely possible, however, that a 50 per cent increase in the tax rate was anticipated by real estate owners of that day.

[3] For example, the interest rate on new issues of long-term school bonds in the State of New York averages 4.2 per cent during the six-year period, 1910–1915, and 4.5 per cent during the period 1916–1921. See p. 89.

should be borne in mind in considering the validity of the real estate values as indices of economic resources. With all their shortcomings these figures are the most significant and valuable measure of wealth of the state at present available.

The real estate values shown in Table 42 represent full market value and are believed to be fairly accurate. They consist of assessments made by local tax officers, as revised by the equalization rates of the State Tax Commission. These equalization rates are based upon elaborate field investigations regarding the correctness of assessments, which involve comparisons of the assessed values with the true prices, as given in recorded deeds in real estate transfers.

Only taxable real estate is included in the figures as presented. In addition there are large quantities of real estate owned publicly or by religious, charitable, educational, and similar institutions which are exempt by law from taxation. In 1921 such property was valued at $3,285,077,891.[1]

If the figures were available, it would be of interest to subdivide them so as to show what portion of the increase from 11 to 17 billions of dollars was due to increases in land values and what portion to an increase in the value of improvements. The figures for the City of New York alone show that between 1910 and 1922 more than two-thirds of the increase in real estate values was due to increases in building values and less than one-third to increases in land values.[2]

The income figures in the table rest largely upon the estimates of the National Bureau of Economic Research.[3] They were obtained by as-

[1] Report of State Tax Commission, 1921, p. 21. It should be noted that this property yields a valuable return to the community even though that return be not valued explicitly in dollars.

[2] This statement is based on the following unequalized assessments of the City of New York, excluding real estate of corporations and the value of franchises:

	1910	1922	Increase
Land	$4,001,129,651	$4,976,001,082	$ 974,871,431
Improvements	2,490,206,348	4,565,004,738	2,074,798,390
Total	$6,491,335,999	$9,541,005,820	$3,049,669,821

[3] In the estimates of the Bureau "the national income is taken to consist of the commodities and services produced by the people of the country or obtained from abroad for their use, with the omission of goods for which no price is commonly paid, for example the services of housewives. Agricultural produce consumed by the families that produce it, mainly food and firewood, is included, and so also is the rental value of homes occupied by their owners. Finally income is reckoned on a net basis, that is, negative income, maintenance, and depreciation charges are deducted, but not 'extensions and betterments'." "Income in the United States," p. 42.

It should be observed that in making these estimates every activity of the people for which money was paid was deemed to produce income equal to its cost irrespective of the character of the activity. Thus services of household servants and of professional men, such as doctors, clergymen, lawyers, actors, etc., and services of government, such as the maintenance of the army and navy, police, fire and health departments, and public education, all were deemed to constitute income equal to their cost. Money received as interest on national, state, and municipal obligations was not included, as such payments, in effect, are made by the people collectively to part of the people and therefore do not increase the collective income of the people.

The work of the Bureau supplies a much more trustworthy approximation of the national income than

TABLE 42

FULL VALUE OF TAXABLE REAL ESTATE IN THE STATE OF NEW YORK AND ESTIMATED INCOME OF THE PEOPLE OF THE STATE OF NEW YORK, 1910–1922

Year[1]	Full Value of Taxable Real Estate[2]		Income of the People of the State of New York	
	Amount in billions	Index showing increase based on 1910[3]	Amount in billions[1]	Index showing increase based on 1910
1910	$10.8	100	$3.9	100
1911	11.0	102.2	4.3	110.2
1912	12.0	111.9	4.3	110.2
1913	12.3	114.0	4.5	115.4
1914	12.8	118.7	4.7	120.5
1915	12.9	120.0	4.5	115.4
1916	13.2	122.9	4.9	125.6
1917	13.7	127.2	6.8	174.4
1918	13.9	129.6	7.4	189.7
1919	14.4	133.4	8.4	215.4
1920	14.7	136.6	9.1	233.3
1921	16.4	152.4	9.9	253.8
1922	17.3	161.2	7.5	192.3

[1] In general, the figures presented in this portion of the report relate to the year ending during the fiscal year August 1 to July 31. The income figures are for calendar years ending during these school years.

[2] These figures include the value of the special franchises of public service corporations which are legally classified as real estate. The comparative importance of this element may be judged from the following figures, which represent the ratio of franchise values to total real estate valuations:

1910	5.8%	1916	4.4%
1912	5.1	1918	5.0
1914	5.0	1920	4.5
		1921	4.1

Public utility franchises in the State of New York tend to be overvalued, rather than undervalued.

[3] These index numbers were calculated upon the basis of the complete figures of real estate values. In the preceding column the figures have been carried only to the nearest hundred thousand.

signing to the State of New York each year the same proportion of the total income of the country for that year as the income of the people of the state was found to bear to the total income of the country during the

has hitherto been available. The following figures represent its final estimates of the income of the country as a whole for the calendar years 1909–1918 (in billions of dollars):

1909	$28.8	1913	$34.4	1917	$53.9
1910	31.4	1914	33.2	1918	61.0
1911	31.2	1915	36.0		
1912	33.0	1916	45.4		

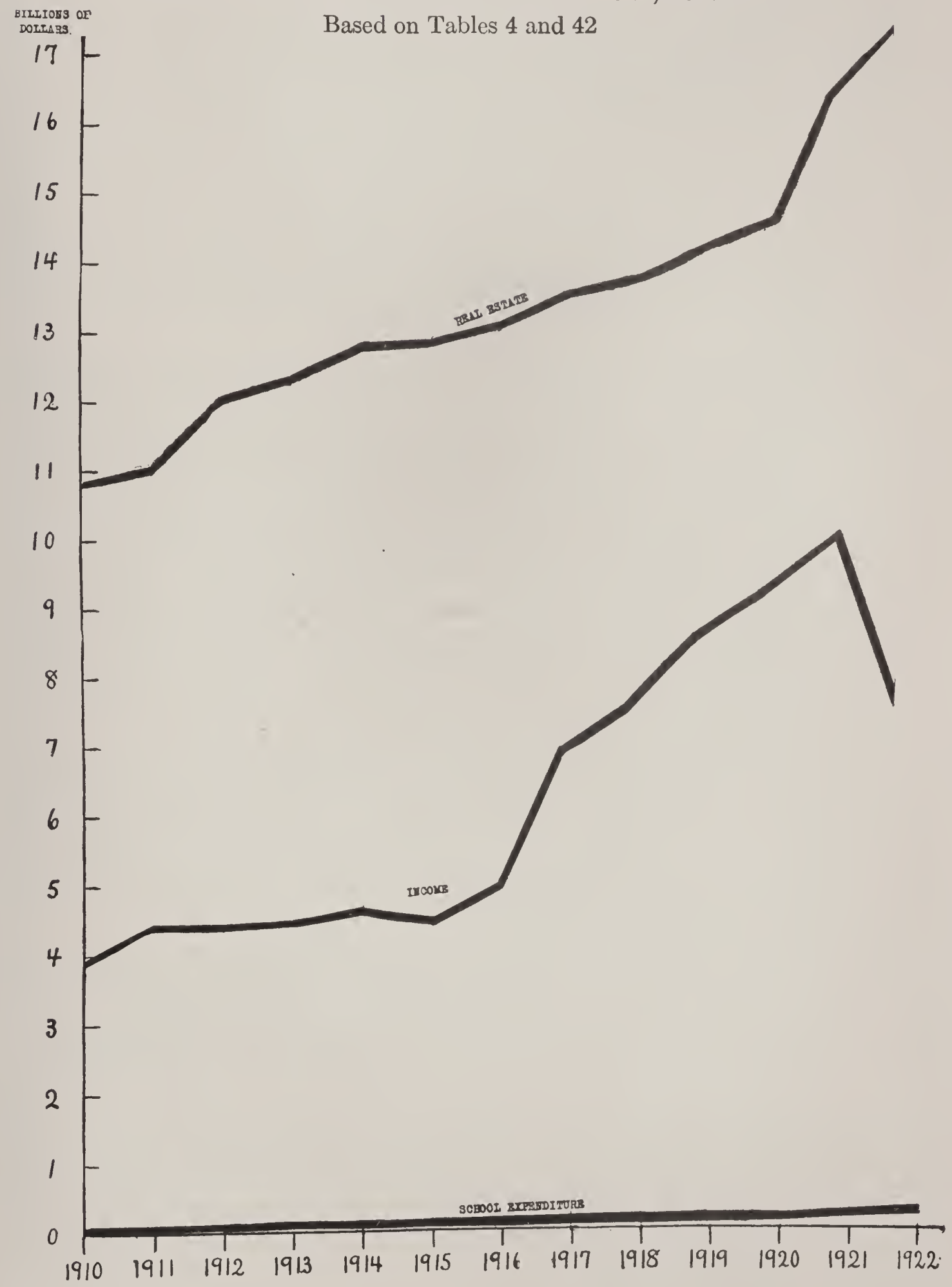
In addition the Bureau has published an estimate for the year 1919 which places the total income of the country at 66.3 billions ("Distribution of Income by States in 1919," p. 25). Later data would appear to indicate that this figure may be as much as 66.8 billions.

The Bureau has published no formal estimates for the years 1920 and 1921. Tentative approximations are available, however, from sources believed to be fairly dependable. Those adopted for the purposes of the table are 72.5 billions for 1920 and 55.0 billions for 1921. The estimates from the second source do not differ much from these, the figures being 71.0 billions for 1920 and 56.0 billions for 1921.

DIAGRAM 8

VARIATIONS IN FULL VALUE OF TAXABLE REAL ESTATE, TOTAL INCOME OF THE PEOPLE OF THE STATE, AND TOTAL CASH DISBURSEMENTS FOR PUBLIC EDUCATION — STATE OF NEW YORK, 1910–1922

Based on Tables 4 and 42



calendar year 1919, when the Bureau attempted a distribution of the national income among the states. The assumption that New York's share in the national income has remained constant during the period under view appears to be a fairly reasonable one.[1]

Table 42 shows for the thirteen years from 1910 through 1922 the full value of taxable real estate in the State of New York, and the annual income of the people living in the state. Figures are given in billions of dollars. The table shows that real estate values have risen gradually and regularly from 10.8 billions of dollars in 1910 to 17.3 billions of dollars in 1922. During the same period the income of the people living in the state rose from 3.9 billions of dollars in 1910 to 9.9 billions in 1921, dropping to 7.5 billions in 1922. That is, real estate values increased slightly more than 60 per cent, while income increased over 90 per cent.

Cash Disbursements for Public Education Compared with Economic Resources, 1919–1920. — When the amounts spent for public schools are compared year by year with the available data representing economic resources, as is done in Diagrams 8 and 10,[2] it becomes evident that the cash disbursements have been growing at a more rapid rate than real estate values and income. In other words, public education is absorbing an increasingly large share of economic resources in the State of New York. One need go no further than this for an explanation of the complaints regarding the size of school expenditures which are so prevalent. Such a state of affairs involves economic readjustments, the character of which is discussed in the next chapter.

When real estate values and income are compared with cash disbursements year by year the comparisons are valid because they are made in terms of dollars of like value. When, however, the comparisons are made between the years in the series the changes in prices enter to modify conclusions which may properly be drawn. During this period, as is well known, prices fluctuated violently.

Since a large proportion of educational expenditures are absorbed in teachers' salaries, perhaps the most significant price index available is that shown in Diagram 9, which measures the variations in the cost of living of persons of moderate incomes during this period. This index was

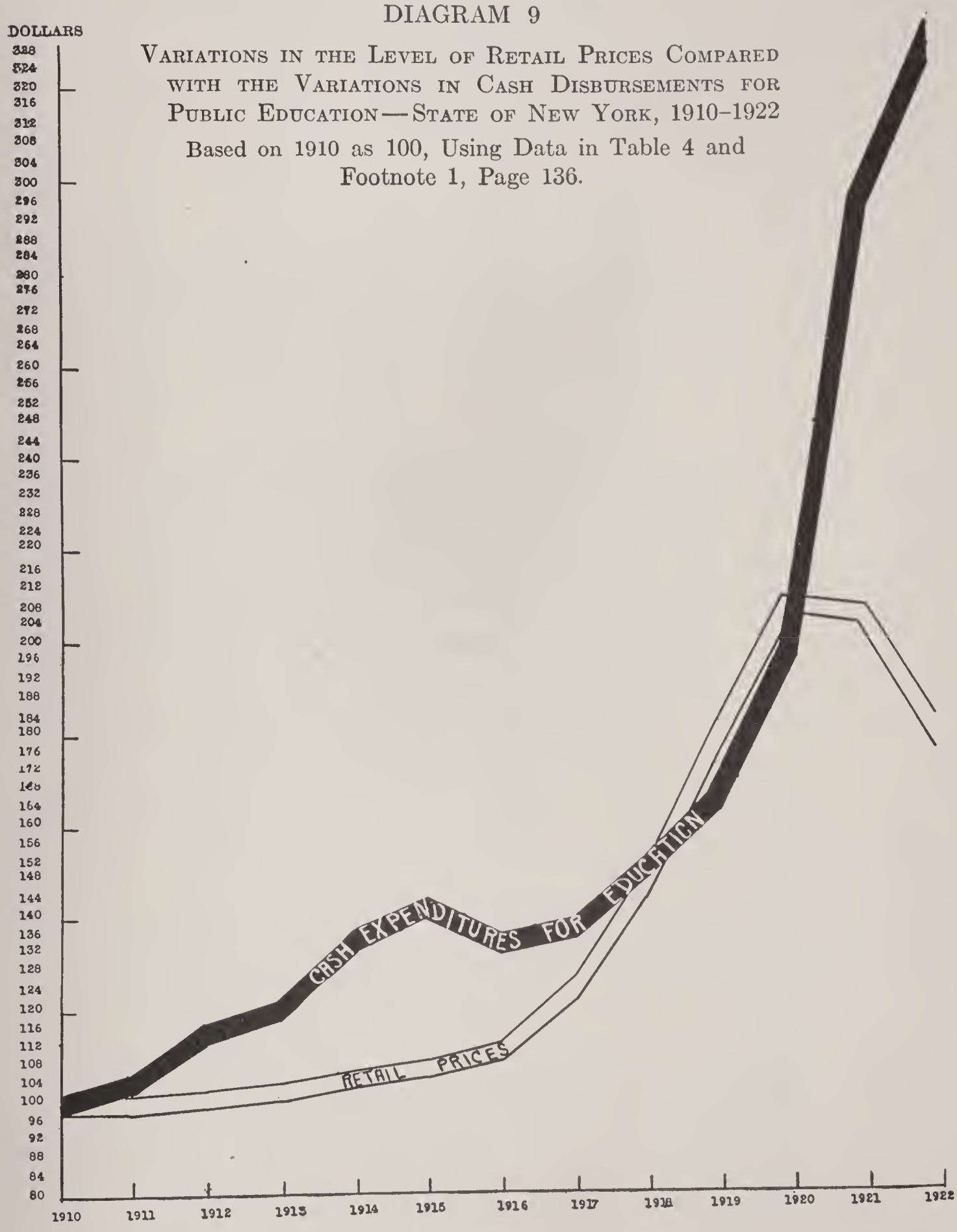
[1] The computations of the Bureau assigned to the State of New York 9.1 billions out of a total national income of 66.3 billions, or 13.69 per cent. "Distribution of Income by States in 1919," p. 25. The figures presented in Table 42 represent 13.69 per cent of the estimated national income for each year of the period. That the assumption involved is not a violent one is shown by the fact that New York's share of the total personal income subject to the federal income tax has remained fairly constant throughout the period for which trustworthy statistics are available. These percentages run as follows: 1917, 17.87 per cent; 1918, 17.08 per cent; 1919, 17.30 per cent; and 1920, 16.99 per cent. The tendency toward decline in 1920 is ascribed by some students of the problem to the increase in investments in tax-exempt bonds by persons of large income in the State of New York.

[2] The data of Diagram 8 were taken from Table 40, p. 105, showing school costs, and Table 42, p. 132, showing state resources.

DIAGRAM 9

VARIATIONS IN THE LEVEL OF RETAIL PRICES COMPARED WITH THE VARIATIONS IN CASH DISBURSEMENTS FOR PUBLIC EDUCATION—STATE OF NEW YORK, 1910–1922

Based on 1910 as 100, Using Data in Table 4 and Footnote 1, Page 136.



prepared by Dr. W. I. King of the National Bureau of Economic Research.[1]

[1] The following figures embrace not only the index mentioned above but also the Wholesale Price Index of the Bureau of Labor Statistics and the index numbers showing the variations in the cash disbursements for education in the State of New York shown graphically in Diagram 9.

Year	Retail Prices	Wholesale Prices	Cash Disbursements for Education
1910	100.00	100	100.0
1911	100.46	92	104.5
1912	101.73	98	115.4
1913	102.67	99	120.8
1914	104.94	97	135.2
1915	106.65	100	142.3
1916	110.56	126	134.4
1917	124.20	175	137.3
1918	147.53	192	150.6
1919	178.39	204	165.5
1920	206.68	224	196.8
1921	204.74	146	294.3
1922	178.45	148	328.8

The basis used in computing the retail price index is explained by Dr. King as follows:

"The index numbers from 1914 to date are based upon the Bureau of Labor Statistics reports. As you know that Bureau for most of the period reported only twice a year. The months between these reports have been interpolated on two bases. During the years 1916 to 1919 I depended upon the fluctuations of retail prices in South Carolina, as a guide to interpolation. Since the first of January, 1920, the National Industrial Conference Board has been presenting monthly figures, and the interpolation during this period has been made on the basis of their reports. Readings have been taken for each month, indices have then been totalled for the twelve months in each fiscal year, and the totals have been divided by twelve, to arrive at the index numbers desired. For the years preceding 1914, a series of indices have been computed on the basis of quotations obtained from numerous sources.

"Relative numbers on the base 1913 have been computed for the following items with the following weights:

Ford automobiles	232
Books	37
Automobile tires	106
Clothing	1,662
College rooms and board	37
College tuition	7
Diamonds	39
Food	3,824
Fuel and light	530
Furs	165
Gasoline	106
House furnishings	510
Housing	1,344
Hotel bills	113
Magazines	28
Moving pictures	130
Newspapers	124
Railway passenger fares	38
Servants' wages	64
Street car fares	365
Telephones	68
Theatre seats	96
Tobacco	279
Vaudeville seats	96
Total	10,000

"These weights have been based largely upon the studies of the Bureau of Labor Statistics concerning the expenditures of families of the working class. Constant weights have been used throughout. Quota-

It must not be inferred that the line of educational expenditures should move in an identical manner with the price line. To expect it to do so would be to assume that the school money was expended for articles of like character and amount to those used in making up the index. For a very substantial portion of the expenditures, however, there was undoubtedly a close correspondence. It is believed that the graph furnishes valuable data for qualifying the conclusions which might otherwise be drawn from the bare figures showing the increases in income and in school expenditures.

TABLE 43

CASH DISBURSEMENTS FOR PUBLIC EDUCATION COMPARED WITH REAL ESTATE VALUES AND ESTIMATED INCOME (ON BASIS OF THE NUMBER OF CHILDREN BETWEEN AGES OF 5 AND 17 INCLUSIVE), STATE OF NEW YORK, 1910–1922

Year [1]	Cash Disbursements for Public Education per Child [2]		Full Value of Taxable Real Estate per Child		Estimated Income of People of State per Child	
	Amount	Index [3]	Amount	Index	Amount	Index
1910	$29.37	100	$5297	100	$1922	100
1911	30.22	103	5334	101	2087	109
1912	32.87	112	5758	109	2056	107
1913	33.95	116	5778	109	2121	110
1914	37.44	127	5934	112	2183	114
1915	38.86	132	5915	112	2061	107
1916	36.19	123	5970	113	2213	115
1917	36.47	124	6097	115	3030	158
1918	39.47	134	6128	116	3252	169
1919	42.81	146	6224	118	3643	190
1920	50.22	171	6288	119	3895	203
1921	74.13	252	6927	131	4182	218
1922	81.76	278	7233	137	3143	164

[1] The expenditure figures are for the school year ending July 31st. The income figures are for the calendar year and the land value figures for the assessment period ending during this school year.

[2] See Table 4, p. 38. For a subdivision of the figures into current expenses, capital outlay, and interest payments, see pp. 30 and 33.

[3] Showing increase based on 1910.

Another important factor in the cost of supplying education has been the increase in the number of children to be educated. The figures in Table 43 and in Diagram 10 are obtained by dividing the various aggregates for

tions have been obtained only for January 1st and July 1st of each year. The average figure for the year has been estimated by weighting the July 1st index 2 and the January 1st and December 31st indices 1 each dividing the sum by 4. The base is the fiscal year 1910, and has been computed in the manner just mentioned.

"The Bureau of Labor Statistics indices have been converted to the 1910 base at the point where they lap over on the other indices, namely, the fiscal year ending June 30th, 1914.

"The estimates for the earlier years are, of course, not as complete as those made by the Bureau of Labor Statistics, but they are believed to be as good as can be worked out with any reasonable amount of effort."

each year by the number of children in the state between the ages of 5 and 17 years. The mere number of children in this age-group is one measure of the size of the educational task. Between 1910 and 1922 the number of such children increased from 2,030,193 to 2,397,673 or 18 per cent. Full account has been taken of this increase in the figures.

Moreover, the number of children actually cared for by the public school system has increased much more rapidly than the mere number of children of school age. In 1910, 1,095,288 children were in average daily attendance at the public schools of the state. In 1922 the number had risen to 1,499,-803 or 37 per cent. A part of the increase in school expenditures is clearly due to this larger school attendance and is not taken fully into account when the aggregate cost is divided merely by the number of children of school age.

The results shown in Table 43 indicate that for every dollar of real estate value back of each child of school age in the state in 1910, there was $1.37 in real estate value in 1922. For every dollar of income back of each child of school age in 1910 there was $1.64 of income in 1922 ($2.18 in 1921). In this period each dollar disbursed for education in 1910 had increased to $2.78 in 1922. In other words, the expenditures for public education per child of school age have nearly trebled during a period when income has only doubled and real estate values have increased only 37 per cent. On this basis, school expenditures have increased nearly five times as rapidly as real estate values and more than twice as rapidly as the income of the people of the state. Clearly, so far as real estate values and aggregate income of the people of the state can be accepted as valid measures of economic resources, New York was devoting a larger share of its economic effort to the support of public education in 1922 than it did in 1910.

It will be noted in Diagram 10 that the decline in cash disbursements for schools (per child of school age) in 1916 and 1917, due to the reduction in capital outlay because of the war, carried the line indicating the rate of increase below the income line. The income line itself rose rapidly, but the increase went, of course, to war purposes rather than to education. During the relatively normal period, 1912–1916, the figures show a tendency for educational costs to increase at a more rapid rate than income, and this situation is again established in 1921.

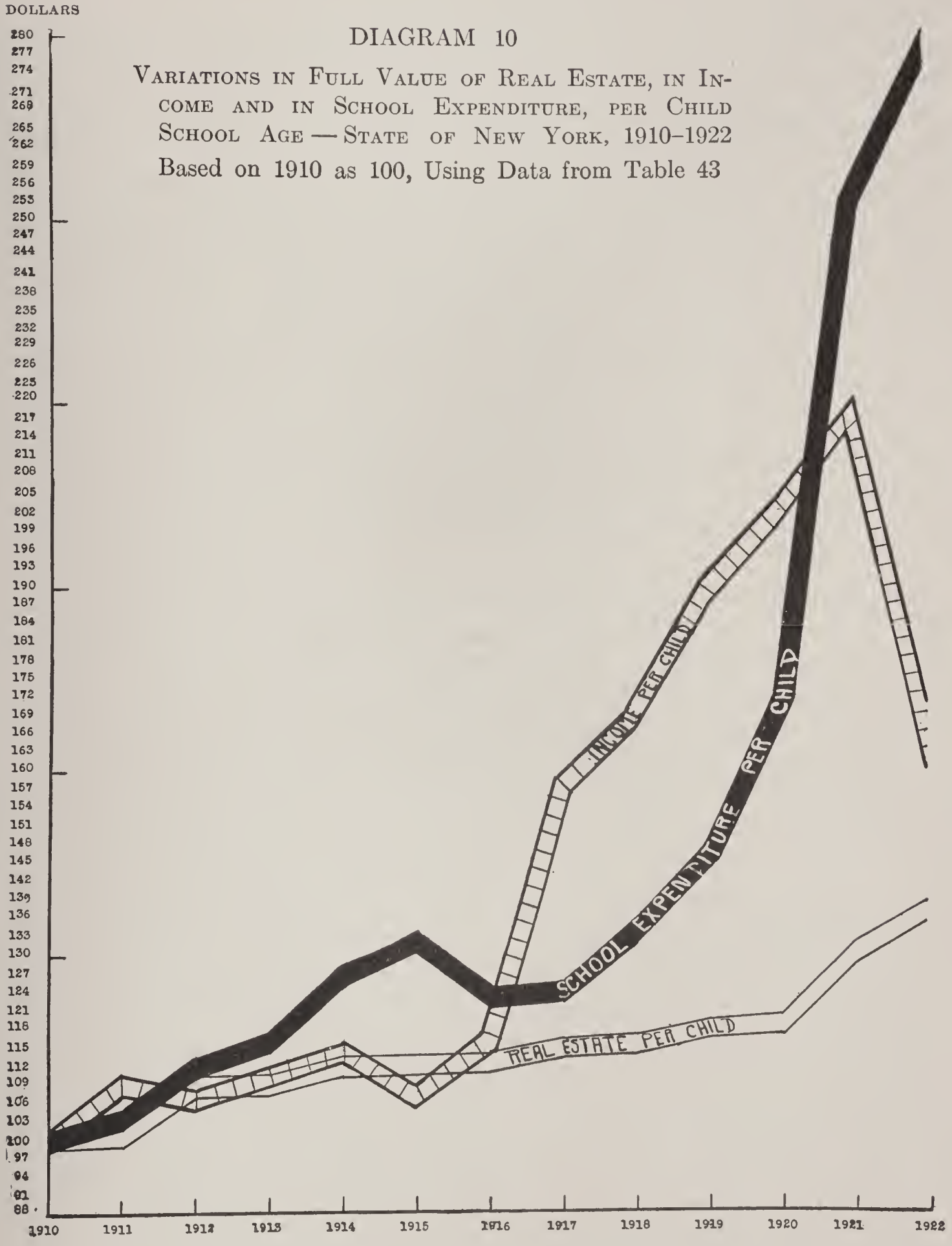
Care must be taken, however, not to leave the impression that the increased expenditure per child of school age means merely an increased cost of an identical service. It represents an increased cost of an expanded service. During this period the public school system of the state has not only attracted and held in school[1] a larger portion of the children of school

[1] It should be noted also that the costs per pupil in the higher grades are larger than in the lower grades, so that a child held in school involves a greater expenditure than a new child entering school. In the state as a whole in 1910 one per cent of the population was in high school. In 1920 this figure had increased to 1.64 per cent.

DIAGRAM 10

VARIATIONS IN FULL VALUE OF REAL ESTATE, IN INCOME AND IN SCHOOL EXPENDITURE, PER CHILD SCHOOL AGE — STATE OF NEW YORK, 1910–1922

Based on 1910 as 100, Using Data from Table 43



age, but has expanded the program. By "program" is implied not simply a more varied or elaborate curriculum, but additional services, such as transportation of pupils, improved administration, health service, kindergartens, vocational, and continuation schools.

The data presented in the foregoing pages indicate that the expenditures for public education in the State of New York have increased since 1910 at a more rapid rate than the economic resources of the state. Plainly a larger share of the total economic effort of the community is being devoted to the support of public schools than was the case at the beginning of the period. In the following chapter, some of the implications involved in such an increase of public expenditure for this purpose are discussed.

CHAPTER X

THE ECONOMIC LIMITATIONS OF EDUCATIONAL EXPENDITURES

In Chapter IX it is shown that a larger share of the economic resources of the community is being devoted to the support of public education. To appraise the significance of this fact, it is necessary to understand clearly the rôle played by education in the economic life of the community. Current discussion shows that serious misconceptions exist both regarding the economic significance of the educational product and regarding the character of the economic limitations of educational support. Although the Commission realizes that a complete treatment of these subjects would involve many chapters and many data which are unavailable, it feels, nevertheless, that a brief discussion may be of service in defining and clarifying the issues involved.

The fundamental propositions which this chapter seeks to establish may be summarized thus:

First, that educational activity, even though publicly administered and supported, is, in a very real sense, economically productive.

Second, that to increase the support of public education means fundamentally that the aggregate economic resources of the community must be increased, or that support must be diverted to education from some other object to which it is now devoted; that increased production is not always easy to accomplish; and that diversion always involves abstinence from objects formerly consumed and, often, because of the specialized character of economic resources, involves a degree of waste.

The quantity of additional support for education which can be made available depends, on the one side, upon the strength of the community's desire for what education has to offer, and the strength of its desire for alternative products, and on the other side upon the ease with which productivity may be increased or diversion effected. The fact that the community is increasing its support of public education is, in itself, no occasion for alarm, or for predictions of disaster. It is of the highest importance, however, that the community should realize what it is doing; that the decisions be purposeful and intelligent.

The Character of the Educational Product

No argument should be required to gain assent to the statement that the system of public education creates a certain valuable product. This

product is, of course, difficult to measure.[1] Obviously, also, it is not so perfect a product as is desired. Doubtless in some cases its cost is unjustifiably high.

Granting all this, however, the fundamental fact of productivity remains. The system of education generates technical skill and increases productive capacity. It tends to raise the intellectual and moral standards of the people, and prepares them to participate intelligently in the government of the country. In recent years it has been effectively used to improve social qualities of great economic importance in such fields as health and thrift. Finally, it makes important contributions in cultivating powers of appreciation which determine the character of economic goods and services demanded and consumed by the community.[2]

It is an equipment of such powers and qualities which constitutes the educational product. The maintenance of this equipment is clearly a first claim upon economic resources. In any comprehensive social balance sheet the equipment possessed by the older generation, which has been produced as the result of past educational effort, must be credited as an asset. This equipment is subject to constant depletion and deterioration through age, disease, and death. Until this, or its equivalent, has been replaced, the community cannot in any true sense be said to have achieved any net income whatsoever. A community may live on its intellectual capital, and emerge at the end of a period intellectually bankrupt.

Moreover, a growing community, especially if the community has a democratic form of government, is under compulsion to provide for *extensions* of the equipment, which is the product of education.[3] If the level of civilization is not to be lowered, sufficient resources must be devoted to education to provide this equipment for each new increment of population. The community's balance sheet will show a gain here. The State of New York was presumably "richer," if in 1920 it had ten and a half millions of educated people than it was in 1910 with only nine millions.[4] However, unless the educational equipment of the entire population, including this increment of growth, is maintained at least at the level which obtained at

[1] Certain of the attempts which have been made in the past to measure the economic value of that product have been obviously faulty, as for example, those which compare the increased earning power of highly educated men with that of men who have received less educational training, without taking into account the point as to whether those who received the advanced training were not a select group as compared with those who did not, and similar questions. Here is a very difficult and complicated problem which it would probably be profitable to investigate in a scientific manner, but which this Commission has not had the opportunity to attack. See A. Caswell Ellis, "The Money Value of an Education," United States Bureau of Education Bulletin 1917, No. 22.

[2] For example, it is a matter of the most profound economic significance whether a community prefers "plain living and high thinking" to high living and low thinking.

[3] This discussion, it should be noted, assumes an education which really has the effect implied. A million spent on *schools* does not necessarily mean a million spent on *education*.

[4] It should not be overlooked, however, that the cost of training the increment of one and a half million people is an expense which necessarily comes out of the net product of the period, and renders these resources unavailable for expenditure for other purposes. The more rapid the rate of growth of a community, the more serious is this draft upon its economic resources.

the beginning of the period, no true net income can be said to have been achieved, because the menace of the uneducated increment would have to be brought to account as a very real liability. Thus the claim of the younger generation upon the older one assumes the character of a demand that if population is permitted to increase, the generation which is responsible shall, before devoting its resources to other purposes, provide for the integrity of the educational equipment necessary to maintain the civilization of the now more populous group at the old level at least.

The community, then, *must* spend for education so much of its available economic resources as may be necessary to maintain the mental equipment of the population, even though the population be increasing in size. If it does not spend this much, civilization itself will decline. How much in addition it can devote to the support of education will doubtless depend in part upon the value placed upon the product which educational activity offers as compared with alternative activities; but it will depend chiefly and fundamentally upon the balance which the community can actually make available for education through thrift and efficiency, after the necessary maintenance costs of society and the necessary capital reserves have been provided for. Additional economic support cannot be provided merely by popular devotion to the cause of education or merely by popular sacrifices to that end.

It is pertinent to observe at this point that in educational activities lies perhaps the highest hope of the race both for increasing its productivity and for rationalizing its consumption. Nothing is more wasteful than ignorance. On the side of production intelligence in labor and management makes for large output at low cost, and on the side of consumption intelligence makes for socially effective use of that product. A given educational expenditure is of great economic significance, if it so transforms the scale of values of a rich young man that he secures greater satisfaction from some form of professional activity than from a life devoted to the pursuit of undisciplined desires, or so transforms the scale of values of a factory worker that he prefers to devote his leisure to intellectual pursuits, rather than to long evenings of mental inertia.[1]

From the point of view of ultimate effects upon the economic resources of the nation, the support of scientific research takes on all the glamour of a promising speculation, which, at relatively slight cost and risk, holds forth the possibility of undreamed-of expansions in productivity.[2] The justification of this statement rests on examples like the following: The

[1] The possible contribution of education to the problem of the more rational use of leisure time constitutes a promising field for an independent investigation.

[2] Moreover, in casting up the accounts, it is only fair to view the research situation in a very broad way and to "consolidate the accounts" of the various institutions. Thus the cost of a dozen agricultural experiment stations may be offset by a valuable contribution from a single worker in one of them. If it is necessary to offer technical training to a thousand mediocre men in order that the door of opportunity shall be open to the one genius who will make the great contribution, the expenditure may be justified.

entire modern industrial system in its enormous capacity for production developed from the epoch-making researches of Watt in Glasgow, and Faraday in the Royal Institution at London. In comparison with the fabulous increases in wealth and productive power that have resulted from these studies, the costs of the investigations themselves are totally negligible. According to Huxley, Pasteur's discoveries for preventing anthrax, silkworm disease, and chicken cholera added annually to France's wealth a sum equivalent to the entire indemnity of the war of 1870. One of the most valuable remedies known to medical science was discovered in a research institute at Frankfort, Germany, the annual income of which was not over $20,000 a year. No one can calculate accurately the added production likely to follow the recent discovery in a Canadian university of insulin and its possibilities for prolonging the lives of diabetics, many of whom are persons of ability and certain to " produce," if only they can be kept in health. The discoveries of a certain member of the faculty at Columbia University, under a conservative estimate, will add to the wealth of the country a sum larger than the entire cost of the university from its pre-revolutionary beginnings to the present. A new process for manufacturing coke, discovered at the University of Illinois, may add more to the wealth of the state than the total appropriations which the state university is likely to receive in the next century. Much the same claim could be safely made for the Babcock milk test discovered at the University of Wisconsin. Instances of claiming to add millions to the wealth of a state by a few thousands spent on research in its agricultural experiment station are frequent. Among such instances, at least the following have a substantial basis of fact: Soil treatment, development of superior strains of grains, increased egg production, control of various plant diseases, sera for preventing diseases of farm animals, grasshopper control, and prevention of loss in stored grain from insects.

Some of the activities with which public education competes for support are public and some are private in character. By virtue of its position as a public function, education suffers, with other public activities, from a misconception which appears to be widely imbedded in the public mind. Men often write and talk as if all public activity were mere waste, and as if the payment of taxes closely resembled the act of throwing money into the sea. This is indeed a superficial view. A tax in a modern democracy tends to approach a deliberate payment of an equitable amount toward the cost of certain desired objects and services which can be more efficiently supplied by collective rather than by individual action.

It is true that the products of governmental activity often contribute indirectly rather than directly to the satisfaction of human wants, and often they are necessary only because of the frailties and shortcomings of human nature. Again, because of the character of the tax systems in vogue,

benefits and tax burdens are often out of proportion. Finally, because of the shortcomings of public administration, costs in governmental undertakings are often high when judged by standards attained in private undertakings. Yet it is certainly true that, speaking broadly, economic resources are expended upon a collective enterprise under public authority because of a belief that, devoted to such a purpose, even with such standards of efficiency as actually obtain in the public service, the resources are more highly productive than if devoted to individual activities. Certainly activities cannot properly be labeled unproductive simply because they are carried on by a government rather than an individual. The economic character of the product is not fundamentally changed simply because it is produced by collective rather than by individual action.

A second popular misconception is that which groups all public activities together and considers them as a single claim upon economic resources which ranks below the claim of all private activities. If the various items of community consumption could be arranged on a scale indicating their order of importance, all of the individually-produced items would not appear together at the top of the scale and all of the collectively-produced items at the bottom. On the contrary the two types of products would be intermingled. Collective protection of person and property might appear near the very top together with the first units of food, clothing, and shelter. All down the scale, governmental products would be found to be competing actively for position with individually-produced items. The process is not one of disposing of a rigidly fixed total of resources by first supplying all demands for individually-produced items and then allowing the various collectively-controlled services to scramble for what may be left. The scramble for resources at the margin is as likely to be between two private as between two public activities — between motion pictures and the theater as between motor-cycle policemen and school teachers.

Economically sound decisions as to what things shall be done by the government and what shall be left to private enterprise must rest fundamentally on the answer to the question as to which course of action will yield the greatest possible net product of want-satisfying goods and services. Since the conditions governing productivity are subject to constant change, the scope of public activity is also subject to constant change. The proper scope today is very different from that in the past — even the recent past — because of changing capacity for collective activity and changing valuations of products.

The fact that public activities usually require resort to taxation thus appears as a relatively superficial circumstance. Fundamentally a tax system is a series of devices for distributing costs of public activities in the manner which corresponds most closely with prevailing standards of justice and equity. It cannot in any real sense be described as economically "productive." It is the public activities which are pro-

ductive and the tax system is only the machinery for transferring economic resources from the taxpayers to the government to meet the costs of these activities. It is then a mistake to think of a tax system as a flowing spring. It is at best no more than a pump. Many of our communities are badly in need of new pumping machinery, but it is well to remember that a new pump is no cure for a dry well.

The Increase and Diversion of Educational Support

It becomes clear, then, that educational activity produces a certain valuable product at a certain cost. Increasing the resources to be devoted to education is not primarily a problem of discovering new and unsuspected sources of public revenue. It is rather a problem of persuading the community to devote its available resources to the support of educational activity to the extent that the educational product promises a more valuable return than other alternative activities.

In the light of the facts regarding the elasticity of human wants and capacity for consumption, there can be no denial of the reality of the limitations upon expenditures imposed by the relative scarcity of resources. The community simply cannot produce all it would like to consume and it cannot continue, over an extended period, to consume more than it produces. It may desire an educational product which involves larger expenditures, but it also desires more automobiles, more motor roads, better houses and clothing, and many other things. A selection is necessary — a selection based upon the value which the community attaches to each of these various products.

However, to admit that there are economic limitations is not equivalent to the assertion that the productive capacity of the community is fixed in a very precise or rigid sense. What degree of discomfort in productive effort the community is willing to assume will depend in large part upon how badly it wants the things which the additional effort will bring forth. There are undoubtedly considerable reserves of energy. A community may desire to continue to enjoy everything it now consumes and may in addition desire a larger educational product strongly enough to counterbalance the discomforts of the additional effort necessary to secure it. Again, more intelligent direction of economic energy or the utilization of unused energy may increase productivity. In other words, the statement that current consumption must be restricted to income currently produced, while in general sound, does not preclude the possibility that income in any given period may be increased because of the stimulus supplied by the desire for increased consumption. Larger educational expenditures may conceivably be covered by increases in economic productivity.

On the other hand, even if the community does not want the additional educational product badly enough to work harder or more intelligently to

secure it, the option still remains of substituting the educational product for some other product which is now included in the community's program of consumption. This is the rational thing to do, if the community really prefers the educational product. This involves diversion of resources rather than the expansion of aggregate resources.

In view of the importance of diversion it is desirable to discuss the process in some detail. It is often assumed that the problem of economic limitation has been satisfactorily disposed of when statistics have been cited regarding the amounts spent for education as compared with the expenditures for soft drinks or cosmetics or advertising. If the purpose and the result are to persuade the community that their values are false and cheap when they prefer such things to education, such argument is beyond criticism. If, however, the inference is drawn that the amounts involved in supplying education are so trifling that there is no need of considering the problem seriously, the use of this argument administers an anæsthetic to a patient who is really in need of a stimulant. If resources now going to the support of so-called "wasteful consumption" are to be diverted to the support of objects such as public education, the community must be brought to a point where it is willing to steel itself to the abstinences and costs involved in the diversion.

The character of the abstinences and costs involved in diversion may be made clear by means of an illustration. Suppose that all of the citizens of the State of New York were to decide suddenly to give up the use of soft drinks and to divert the resources hitherto devoted to the production and sale of soft drinks to the support of public education. The first point to note is that the abstinence from soft drinks would mean the disappearance of that group of satisfactions which their consumption had created — satisfactions which operated as a stimulus to such effort as was necessary to secure them. These "soft-drink satisfactions" are sacrificed to secure more highly-desired "educational satisfactions," but abstinence from the soft drinks is clearly involved.

To keep the illustration simple, let it be assumed that all of the activities involved in producing and marketing the soft drinks formerly consumed by the people of the state were performed by persons within the borders of the state. What has happened, economically, as a result of the decision to give up soft drinks? First of all, the purchasing power is now withdrawn from soft drinks and there is no further use in this field for the services and capital formerly devoted to its manufacture and sale.[1] If the workers who formerly made and sold soft drinks were highly skilled and specialized, there will certainly be a shrinkage in their power to produce

[1] Except in so far as they may be marketed elsewhere. That they can be marketed at the same price elsewhere assumes an increase in the demand for soft drinks elsewhere. To market them elsewhere at a sacrifice in price presumably involves a scattering of the loss among the producers in other states than New York rather than a reduction in the total amount of the loss.

articles valued by the community involved in their transfer from their old work to some new work. If the capital formerly employed in making and marketing the soft drinks is of a character that cannot be readily devoted to the next most valuable alternative use there will certainly be a shrinkage in its value. Consequently the sudden decision to eschew soft drinks will not immediately render available for purposes of public education an amount of economic resources of a value precisely equal to those which were formerly represented by the expenditures for soft drinks. The amount rendered available will be a sum which is smaller by the amount of the shrinkages noted above.

This illustration reveals some of the qualifications which must be kept in mind in interpreting the statistics of resources. The figures quoted in the preceding chapter (page 132) relating to the wealth of the State of New York and the total income of the people of that state do not by any means represent resources which are fully or immediately available to any new product which the community desires. They do not represent so many dollars in coin. In modern times money has largely ceased to be used as a store of wealth. They represent rather so many dollars' worth of goods and services. Moreover, these resources are already largely pledged and unavailable for alternative uses. Upon them the community must draw for the satisfaction of all its economic needs. To a considerable extent they are specialized in character and ill-adapted to any other use. The supply of goods prepared for final consumption which is on hand at any one time forms but a small portion of the aggregate.

It must not be overlooked, however, that even the most specialized instruments of production are constantly being worn out and replaced.[1] If the transfer of public demand from one product to another be not too sudden and too rapid to permit old specialized instruments of production to be used up, the waste involved in the transfer may be greatly lessened by the policy of reinvestment of depreciation funds.

Certain types of wealth and income can be easily and economically diverted to other uses. Moreover even if such diversion does involve a certain amount of apparent waste, this does not preclude the possibility or benefit of making the diversion. Beating swords into plowshares is obviously not, as a rule, the most economical method of manufacturing agricultural implements. But if the values of the community should undergo a change which would make a supply of swords entirely superfluous, this course of action would become economically sound.

Aside from its immediate availability for desired purposes, the mere quantity of the accumulated wealth of a community is a valuable index of economic power. The possession of a large stock of it implies ability on

[1] Income is, indeed, not deemed to be *net* until an allowance has been made to cover the cost of such worn-out equipment.

the part of the community to produce and save. The precise form which the bulk of these savings have taken in the past may not be well suited to diversion to the support of education, but the mere existence of stocks of wealth raises a presumption regarding the productive power of the community which may in the future be diverted to a greater or less extent from present objects to others, including perhaps the support of education.

With respect to certain of the claims upon economic resources with which education must compete, it is possible to quote definite figures. One such claim is the demand for increased amounts of capital for use in future production.

In general, it is true that to live beyond the income currently produced means economic retrogression.[1] It is possible, for limited periods, to "live upon capital," but this cannot be continued for an extended period without reducing the size of the social income. In times of great stress, when the values at stake are so tremendous as to justify the sacrifice, capital is sometimes burned up in this manner.

However, except for temporary lapses such as those caused by great wars, modern economic history has not been a story of retrogression, but one of rapid progress. The total physical product today is many times that of a century ago. It has much more than kept up with the increase of population. This increase is due largely to the fact that the people have not spent their entire current income for consumption goods, but have rather saved a part and devoted it to the building up of the capital fund.[2] The hope of continued economic progress is based to a considerable degree upon the possibility of continuing this policy.

Until recently no reliable estimate was available concerning the size of the sums annually devoted to the increase in the capital fund. Fortunately, however, a careful study by Dr. W. I. King of the National Bureau of Economic Research has just been published in the *Journal of the American Statistical Society*.[3] Dr. King concludes that the country as a whole saved the following percentage of its aggregate income in the years indicated:

Year	Percentage	Year	Percentage	Year	Percentage
1909	17.1	1913	13.8	1917	16.9
1910	17.1	1914	12.5	1918	−3.1
1911	13.7	1915	21.		
1912	15.6	1916	27.4		

[1] Such a statement as this ignores the possibility of improvements in the technique of production which would make existing capital more productive or changes in the character of the products demanded in favor of products requiring relatively small capital in their production.

[2] It is not the intention to overlook the importance of improvements in industrial technique which rest in turn largely upon scientific discoveries, one of the most important fruits of education itself.

[3] December, 1922, p. 467.

TABLE 44

TAXES [4] FOR PUBLIC EDUCATION [1] IN THE STATE OF NEW YORK COMPARED WITH TAXES FOR OTHER PURPOSES, 1910, 1915, AND 1920

	1910	1915	1920
Taxes for Education Only (in Dollars)			
Federal [2]	$ 68,000	$ 116,587	$ 636,868
State	7,696,727	9,545,064	16,824,425
Local	48,914,785	66,019,995	96,677,198
Total	$56,679,512	$75,681,646	$114,138,491
Total Taxes Paid for All Purposes (in Dollars)			
Federal [3]	$ 61,045,303	$ 74,039,736	$ 739,570,410
State	34,362,760	38,045,124	108,076,349
Local	228,578,000	237,427,372	379,654,109
Total	$323,986,063	$349,512,232	$1,227,300,868

[1] The figures for educational expenditure represent only that part of such expenditures met from taxes in that year.

[2] The figures for federal taxes spent for education are the actual amount paid to the State of New York and to New York institutions for educational purposes.

[3] The actual amount of federal taxes paid by New York taxpayers is not available. The amount assigned to New York was obtained by adding (1) the actual personal income tax payments during the fiscal year 1914–1915 and (2) a share of other federal revenues determined by the proportion which the population of the state bears to the total United States population. In 1920, personal income tax assessments for the calendar year 1920, rather than fiscal year collections, were used as a basis for assigning to New York its share of that tax. This basis of distribution was decided upon, after considerable study, as on the whole the most satisfactory available. If New York's share is determined on the basis of actual collections of all federal taxes within the borders of the state, the figure of $739,570,410 for 1920 becomes approximately $1,422,800,000. If the amount credited to New York is determined on the basis of the income of the people of the state as compared with the income of the people of the country in general, the figure of $739,570,410 becomes $779,214,900.

[4] Meaning tax moneys expended.

The average saving for the period is estimated at 15.6 per cent of the total income.[1] In terms of the present income of the people of the United States this means that approximately eight and a half billions of dollars are saved and reinvested each year. In other words, the rate of economic progress [2] to which we are accustomed can be obtained only by continuing to save about one-sixth of the income of the community.

Another competing demand upon economic resources concerning which it is possible to quote statistics is the demand for product of governmental activities other than education. The available figures are of two types. The first set, presented in Table 44 and Diagram 11, relate to taxes collected, and the second set, presented in Table 45 and Diagram 12, relate to net expenditures made (cash disbursements).

[1] Needless to say, these figures are rough approximations; but they are the best approximations yet available.

[2] In so far as this depends upon the continued extension of the capital fund.

TABLE 44 (*Continued*)

PER-CAPITA AMOUNTS

TAXES FOR EDUCATION ONLY (IN DOLLARS)

	1910	1915	1920
Federal	$ .01	$ .01	$ .06
State	.84	.98	1.62
Local	5.37	6.77	9.31
Total	$6.22	$7.76	$10.99

TOTAL TAXES PAID (IN DOLLARS)

Federal	$ 6.70	$ 7.60	$71.21
State	3.77	3.90	10.41
Local	25.08	24.35	36.56
Total	$35.55	$35.85	$118.18

PORTION OF THE TAX DOLLAR DEVOTED TO EDUCATION (IN CENTS)

	1910 Tax Dollar		1915 Tax Dollar		1920 Tax Dollar	
	Education	All Purposes	Education	All Purposes	Education	All Purposes
Federal	—	$ .19	—	$ .21	—[5]	$ .60
State	$.02	.11	$.03	.11	$.01	.09
Local	.15	.70	.19	.68	.08	.31
Total	$.17	$1.00	$.22	$1.00	$.09	$1.00

[5] Less than ½ cent.

It is apparent that the total taxes of the people of the State of New York, according to this estimate, more than trebled in the period 1910–1920. Taxes for education, on the other hand, only doubled. These figures include an estimate of New York's share of federal taxes, so that the increase in federal taxation for war purposes makes its influence felt.

When the federal taxes are eliminated from the computation it is found that whereas education absorbed 21.5 per cent of all state and local taxes in the State of New York in 1910, it consumed 23.3 per cent in 1920 and 30.0 per cent in 1921.[1] In other words, in the field of state and local taxation the taxes for education are growing more rapidly than taxes for competing objects publicly supplied.

On the basis of an estimated income for the people of the State of New York of 9.1 billions in 1920, 13.49 per cent was taken in taxation to finance activities collectively administered under governmental control. Taxes for education required 1.25 per cent of the income.

[1] The underlying figures for 1921 are as follows: Total taxes (state and local), $524,774,651; amount to education, $157,458,088.

DIAGRAM 11

TAXES FOR EDUCATION COMPARED WITH TAXES FOR OTHER PURPOSES — STATE OF NEW YORK, 1910, 1915, AND 1920

Based on Table 44

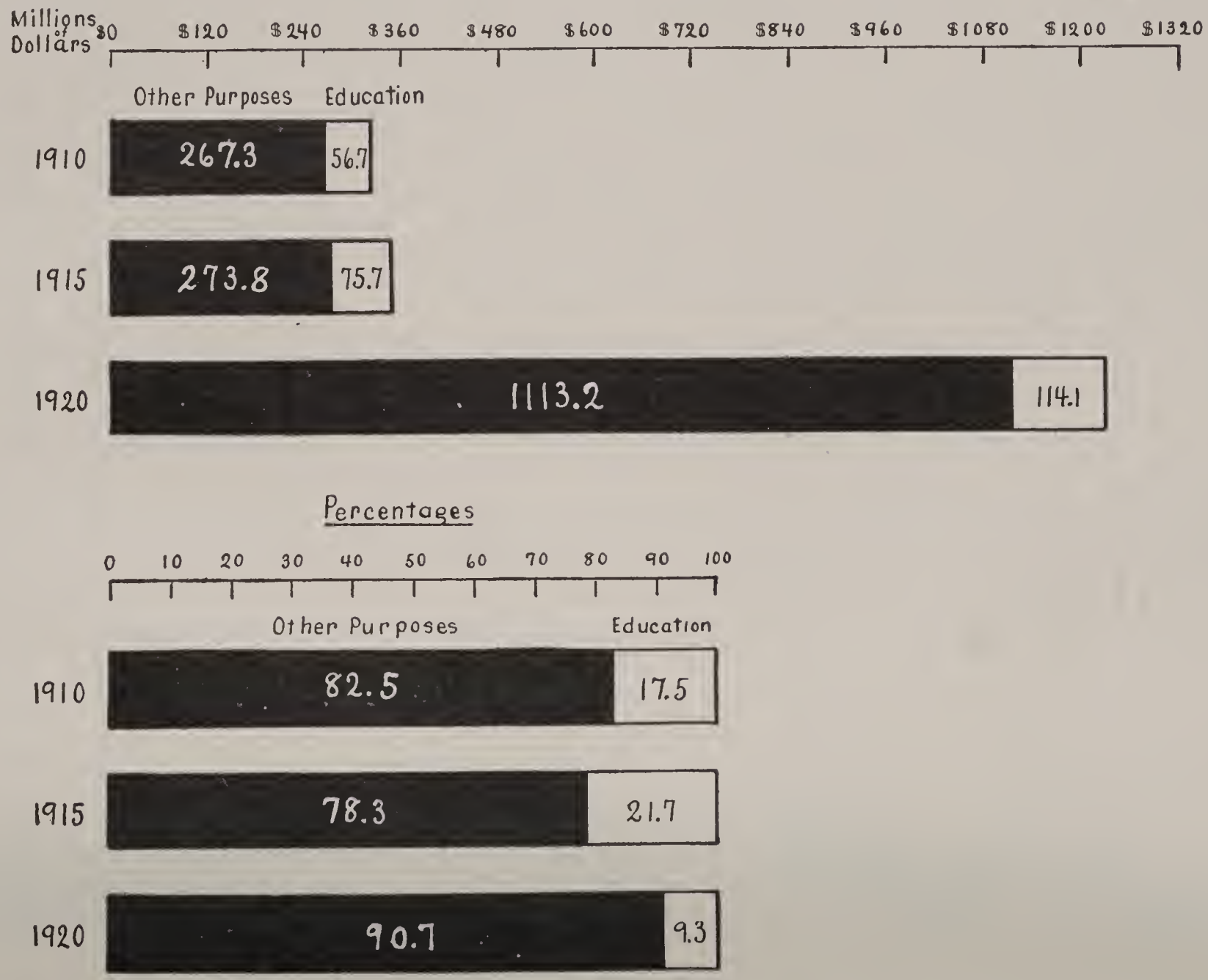


TABLE 45

NET EXPENDITURES (CASH DISBURSEMENTS) OF STATE AND LOCAL GOVERNMENTS, CLASSIFIED ACCORDING TO PURPOSE — STATE OF NEW YORK, 1910, 1915, AND 1920 [1]

	Aggregate Amounts in Millions of Dollars			
	1910	1915	1920	Percentage of Increase, 1920 over 1910
Education	$ 59.6	$ 84.8	$117.3	96.8
Streets and Highways	67.4	84.5	106.0	57.3
Protection of Person and Property	40.7	43.9	73.0	79.4
Charities and Corrections	21.6	34.8	63.8	195.4
General Government	36.0	44.8	63.6	76.7
Public Utilities [2]	87.4	74.0	58.1	−33.5
Health and Sanitation	21.1	26.5	50.2	137.9
All Other	39.8	41.3	76.2	91.5
Total	$373.6	$434.6	$608.2	62.8

	Percentage of Total Spent for Each Purpose		
	1910	1915	1920
Education	16.0	19.5	19.3
Streets and Highways	18.0	19.5	17.4
Protection of Person and Property	10.9	10.1	12.0
Charities and Corrections	5.8	8.0	10.5
General Government	9.6	10.3	10.4
Public Utilities	23.4	17.0	9.6
Health and Sanitation	5.6	6.1	8.3
All Other	10.7	9.5	12.5
Total	100.0	100.0	100.0

[1] The figures for state expenditures were obtained from the reports of the State Comptroller. Those for the local districts were secured from the Comptroller's "Reports of Municipal Accounts," Reports of the State Education Department, and the United States Census Reports on Financial Statistics of Cities. Capital outlay and interest are included in the figures. Where it was necessary to estimate the amount of interest to be allocated to a given purpose the ratio of debt for that purpose to the total debt in that district was applied to the total interest payments of the district. In estimating capital outlay for different purposes, the proportion of total capital outlay for each purpose in other districts of the same class was applied to total capital outlays in those districts where no classification of outlays was obtainable. In the smaller jurisdictions where no division of outlays was obtainable for any district, the proportions occurring in larger districts were used. Some error is probably involved in this last step, but no better method of estimating was available, and in any case the amounts involved were small enough to be negligible. In 1910, and to a smaller degree in 1915, the Reports of Municipal Accounts contain no figures for a number of local districts. Estimates for these have been supplied by assuming that expenditures were the same as average expenditures in districts of similar size and character.

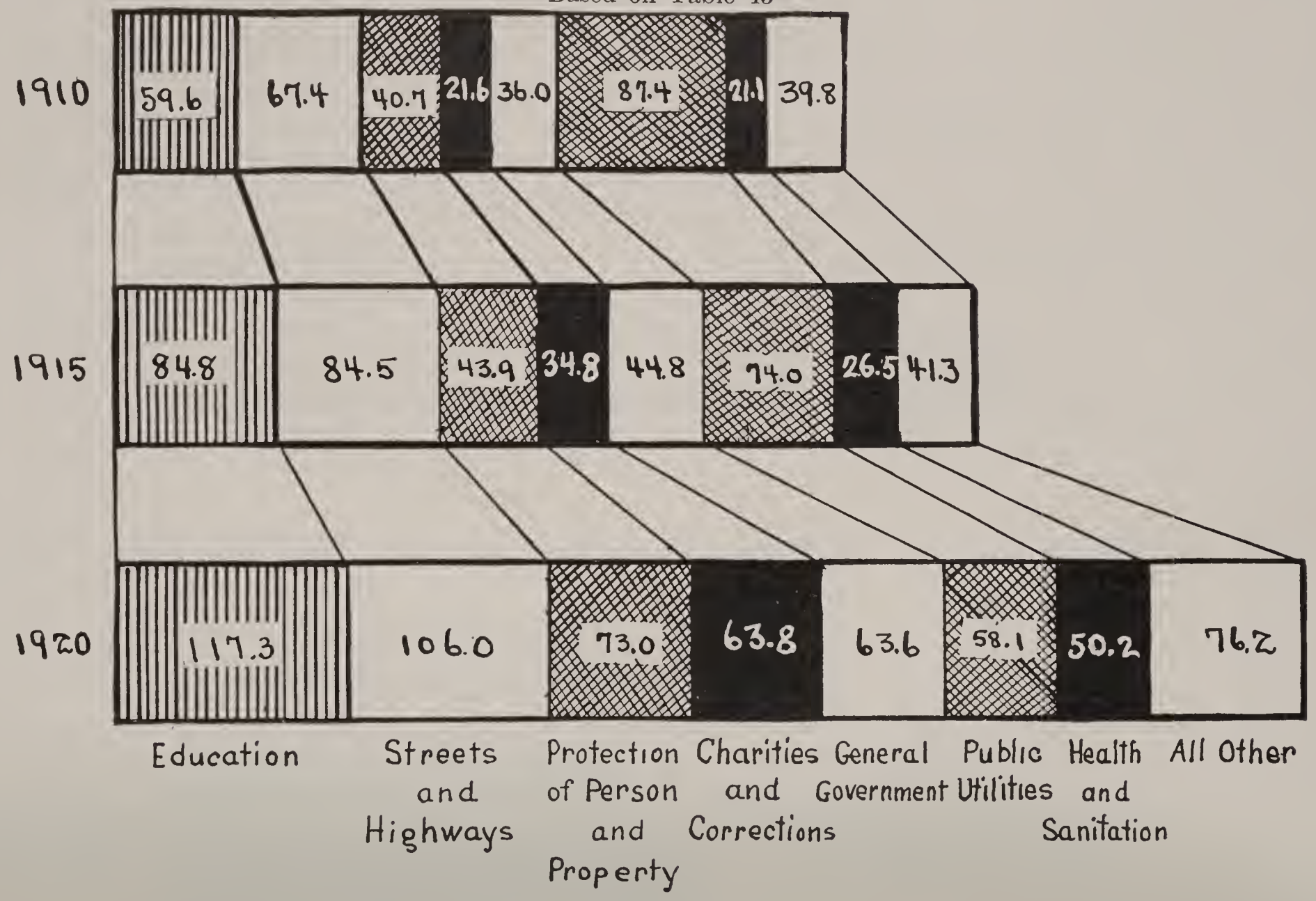
[2] These amounts represent for the most part capital outlay for projects which are largely self-supporting. The diminution in the amount is due almost entirely to the drop of the expenditures for the water supply system in the City of New York.

The second table and diagram make possible a more detailed comparison. There the expenditures of the state and local governments

DIAGRAM 12

NET EXPENDITURES (CASH DISBURSEMENTS) OF STATE AND LOCAL GOVERNMENTS IN MILLIONS OF DOLLARS — CLASSIFIED ACCORDING TO PURPOSE — STATE OF NEW YORK, 1910, 1915, AND 1920

Based on Table 45



(including federal subventions) are classified to show which of the several types of governmental activity are gaining and which are losing in relative position. It is apparent that the increase in educational expenditures is not an isolated one. In fact the expenditures for both "Charities and Corrections" and "Health and Sanitation" have risen even more rapidly than education. But in 1920 education absorbed a slightly greater percentage of the total expenditures than it did in 1910 — 19.3 per cent as compared with 16 per cent.

It is in the presence of demands of this character and magnitude, in addition to the desire to increase living standards generally by expenditures for articles of consumption, produced privately rather than through government activities, that education must seek its additional support. Clearly the support can be greatly increased, if the people are willing to meet the conditions. But as it is impossible to estimate how far the community is able and willing to increase production and to countenance diversion, it is also impossible to estimate in any quantitative manner the limits of additional support.

The discussion of the limitations of additional support should take cognizance of the very human desire to eat one's cake and have it too. There are some who are eager for additional educational advantages only because they expect that some one else will make the effort or assume the abstinence and wastes of diversion. The burden must finally come to rest somewhere in the community, but unfortunately, because of the crudeness of machinery for securing decisions as to what the community wants in the way of public activities and the crudeness of the processes of taxation, ofttimes the bill which is finally presented to the individual taxpayer for settlement does not appeal to him as a fair one. The decision with regard to public expenditures is a group decision, but the decisions regarding production effort are predominantly individual decisions. This situation gives rise to unfortunate reflex economic effects. When a taxpayer feels that he is not getting his money's worth, he will not cheerfully make the economic effort necessary to secure the money to pay his taxes and will use every possible means of reducing them. The economic limitations, consequently, interlock intimately with complicated problems of governmental organization and the technique of taxation.

CHAPTER XI

THE PROBLEM OF SCHOOL FINANCE IN RELATION TO THE REVENUE SYSTEM OF THE STATE

It is clear that the hope for a solution of the financial problem of public education in the State of New York does not lie in the direction of the discovery of some unsuspected "new source of revenue." It has been shown that education is now the most costly public function performed by the state and its subdivisions, accounting for nearly twenty cents out of each dollar spent. Improved taxation for schools resolves itself into the question of tax reform in general in the State of New York.

If the discussion of the present revenue system of the state were to be dismissed with a sentence, it would perhaps be best to say that it is neither so bad as to operate as a serious limitation in the present school-finance situation, nor yet so good but that certain important changes are not desirable. New York has been one of the few states which has faced its fiscal problem squarely and taken steps to put its system of taxation into harmony with the changed conditions which have come about in the last few decades. But the reform of the revenue system is by no means complete even yet and, if the years which lie ahead bring with them greatly increased demands for revenues, further fundamental readjustments in the system will undoubtedly become imperative.

The System of Taxation

The existence of a Joint Legislative Committee on Taxation and Retrenchment, which, under the chairmanship of Senator Frederick M. Davenport, has been making an elaborate survey of the revenue system of the state, has rendered it unnecessary for the Commission to undertake an original investigation in this field. Close coöperation was established with the Davenport Committee,[1] including arrangements for the interchange of certain data, and the Commission is fortunate in being able to refer readers to the report of the Committee for a full statement of the manner in which the present revenue system is operating and for a discussion of those portions of the system which appear to be in need of alteration.[2] The

[1] Mr. Haig of the Commission acted as Secretary and Chief-of-Staff of the Davenport Committee from March, 1921, to March, 1922, and has continued his connection since that time in an advisory capacity.

[2] The document referred to is the "Report of the Special Joint Committee on Taxation and Retrenchment, Submitted March 1, 1922," Albany, J. B. Lyon Company, Printers, 1922. Copies may be secured by applying to Senator Frederick M. Davenport, Chairman, Capitol, Albany, N. Y.

chief characteristics of the tax system as it now stands are set forth in Chapter VII (see pages 107–115).

Changes Suggested by the Joint Legislative Committee. — The recommendations of this Joint Legislative Committee relate chiefly to the readjustment of the taxes on business. It reports that the special forms of taxation applied to financial institutions and public utilities are operating in an unequal manner and suggests that a new " gross-net " income tax be substituted for the present taxes on utilities, and that the regular business income tax be applied to financial institutions. It recommends further that unincorporated businesses be subjected to a tax on net income at a slightly lower rate than corporations.

With respect to motor vehicles, the legislative committee urges the adoption of a gasoline tax and the readjustment of fees, particularly those of motor trucks, so as to make the taxes correspond as closely as possible to the road costs.

The property tax, which supplies so large a share of the school revenues,[1] should, according to the legislative committee, be made purely a real estate tax and personal property should be entirely exempted.[2] The so-called " direct " state tax on real estate, that is, the portion of the real estate rate imposed for state as contrasted with local purposes, should, the Davenport Committee believes, be abandoned at the earliest possible moment in the hope that this action will bring a measure of relief to real estate. It is interesting to note this suggestion in connection with some of the conclusions reached in Chapter XII (see page 174) regarding state aid for schools.

The administration of the property tax is susceptible of improvement in the opinion of the committee. It urges that " a constitutional amendment be submitted which will make possible a thoroughgoing reform of real estate assessments through the establishment of larger tax districts, officered by skilled assessors, functioning under a higher degree of central supervision and control." [3] It recommends, further, that the statutes be amended so as to centralize the collection of school taxes levied against public utilities.[4]

These, then, constitute the next steps in tax reform in the State of New York, in the opinion of the official committee of the State Legislature. It is of interest to compare the situation as it now exists and the recommended changes with the Plan of a Model System of State and Local Taxation prepared by a committee of the National Tax Association.

[1] See p. 108.

[2] It will be recalled that only an insignificant amount of personal property is now subject to tax.

[3] Volume cited, p. 59.

[4] Each country school district now has its own tax collector. One public-utility company testified that it paid school taxes to more than 4,900 separate districts. Reference cited, p. 60. See note 1, p. 113, of the present volume for statement regarding legislation in 1923.

Comparison with the "Model Plan" of the National Tax Association.— In 1918, "The Committee Appointed by the National Tax Association to Prepare a Plan of a Model System of State and Local Taxation," composed of a notable group of authorities on the theory and practice of taxation,[1] submitted a preliminary report.[2] Most students agree with Dr. T. S. Adams in regarding "this report as one of the wisest and most helpful statements ever published concerning the proper structure of the tax system of the American state." The report deals "with the general principles upon which a model system of taxation may be constructed, and with the general framework of such a system." The principles and framework have won general approval and their elaboration is being carried forward by various special committees of the Association.

At the beginning, the report points out that there is a definite conviction in the minds of the people of this country, as revealed by the statutes of the various states, regarding the correctness of the following three propositions:

First, "That every person having taxable ability should pay some sort of a direct personal tax to the government under which he is domiciled and from which he receives the personal benefits that government confers";

Second, "That tangible property,[3] by whomsoever owned, should be taxed by the jurisdiction in which it is located, because it there receives protection and other government benefits and services"; and

Third, "That business carried on for profit in any locality should be taxed for the benefits it receives."

These propositions are, in the opinion of the Committee on Model Plan, essentially sound and just, although in their application in the past many of the methods used have been illogical and inconsistent. That the future tax system of the states will be based on these three propositions is definitely affirmed in the following forceful paragraph:

"Whatever one may think of any or all of these principles, the fact remains that they undoubtedly represent hard facts which any new system of taxation must take into account. That they are not in many cases logically and consistently applied, admits

[1] The membership of the Committee was as follows:
Charles J. Bullock, Harvard University, Chairman,
T. S. Adams, Yale University,
Charles V. Galloway, State Tax Commissioner of Oregon,
Samuel T. Howe, Kansas Tax Commission,
Celsus P. Link, Colorado Tax Commission,
Samuel Lord, Minnesota Tax Commission,
Ogden L. Mills, Congressman, City of New York,
Thomas W. Page, University of Virginia,
A. C. Rearick, Attorney at Law, City of New York,
W. L. Tarbet, Illinois Central Railroad Company.

[2] Copies of the report may be secured by addressing A. E. Holcomb, Secretary-Treasurer, National Tax Association, 195 Broadway, New York, N. Y. The report is dated September, 1918, and is available in the printed volume of the Proceedings of the Association for 1919, pp. 426–470.

[3] A sharp difference of opinion exists among students of taxation as to whether all tangible property should be so taxed or merely real estate. For the tendency in the State of New York, see p. 108.

of no doubt; that they sometimes lead to confusion and involve unjust double taxation and disregard of interstate comity, cannot be questioned. But the committee believes that there is merit in each of these principles, even though they have been frequently misapplied; and is satisfied that the laws in which the principles are embodied will not be changed except to give place to statutes that provide fairer and more logical methods of carrying the principles into effect."

The solution which the Committee on Model Plan proposes is a diversified tax system of three main elements corresponding to the three principles set forth above. In its opinion, every legitimate claim of every state can be met and unequal and unjust double taxation can be avoided by the general adoption of this plan. In the main this consists of:

First, " A personal tax [1] which shall be levied consistently upon the principle of taxing everyone at his place of domicile for the support of the government under which he lives; "

Second, " A property tax on tangible property, levied objectively where such property has its situs and without regard to ownership or personal conditions;" and

Third, " For such states as desire to tax business, a business tax which shall be levied upon all business carried on within the jurisdiction of the authority levying such tax."

In addition the Committee on Model Plan contemplates the continuance of certain other sources of revenue such as fees, special assessments, inheritance taxes, etc.

Comparing the situation in New York with the Model Plan, it is apparent that New York already has a comprehensive personal income tax of the general character recommended by the Committee. Its scope is somewhat too broad to suit the National Tax Association Committee in that certain types of personal income of non-residents are subject to the tax, but this will be rectified if the recommendations of the Davenport Committee are adopted by the legislature.

New York also has a firmly established business income tax of restricted scope. It will be recalled that the Davenport Legislative Committee recommends that its scope be extended by making its application as broad as business itself.[2] The state is apparently on the road to the complete exemption of tangible personal property, rather than its taxation at a light rate, an arrangement which, while not urged by the National Tax Association Committee, is not in conflict with the principles of its Model Plan.

The point at which New York falls farthest short of the standard set in the Model Plan is with respect to the organization of its local assessment machinery. Here a very faulty condition still obtains in spite of the improvements resulting from the supervision of the State Tax Commission.

[1] This, in the opinion of the Committee, should be based on net income.

[2] See p. 157.

Here again, however, the situation will be remedied by the adoption of the Davenport Legislative Committee's recommendations.[1]

Conclusions. — The Educational Finance Inquiry Commission presents the above analysis and comparison as an indication of the present status of tax reform in the State of New York and of the opinion of the authorities quoted regarding its probable course of future legislation. Further than this it does not feel called upon to go.

It should be observed, however, that tax reform is constantly conditioned by circumstances. An improvement in the standard of public administration would make feasible certain refinements of taxation which are debarred from consideration because of the grade of administrative skill necessary to their use. Similarly improvements in private accounting and in taxpayers' coöperation would affect the situation in a fundamental manner. The effects of redistricting the state for school tax purposes are discussed in Chapter XII (pages 161, 162, 166–176).

[1] See p. 157.

CHAPTER XII

THE SIZE OF THE UNIT FOR SCHOOL SUPPORT AND THE PROBLEM OF STATE AID

The problem of financing public education is profoundly affected by the manner in which educational functions are divided among the various political divisions of the state and the manner in which the state is districted for raising school funds.

The area included within the boundaries of the State of New York varies widely in its economic character. The state is predominantly urban; approximately 83 per cent of the total population in 1920 were living in places having more than 2,500 inhabitants each, and more than one-half of the entire population of the state were living in the City of New York alone. Nevertheless, more than 1,750,000 persons lived in the open country or in villages of less than 2,500. The state not only includes highly developed industrial and commercial districts, but it includes also large agricultural areas of varying degrees of fertility and large tracts of sparsely inhabited mountain land suitable only for forest growth and of very small value.

If the state were to be split into small districts and each district required to provide by local taxation the entire cost of maintaining its own schools, wide variations would necessarily result either in the educational facilities furnished, or in the rates of taxation for educational purposes. In some of the districts where the tax-paying ability of the residents is low, the number of children of school age is large, and the cost of providing school facilities high, the burden of supporting a very modest educational offering might be crushing in weight. On the other hand, if the state were to regard public education exclusively as a state function, to be supported by taxation on a state-wide basis, the state's economic resources might be gathered into a single pool, in which case the educational facilities of the poor sections would be limited, not by the size of local resources alone, but by the size of the resources of the state as a whole.[1]

[1] In Delaware the entire support of schools for the state minimum requirement is furnished by the state. In addition a relatively small amount (only 8.5% of the total school revenues) came from local taxes and other local sources for capital outlay and debt service caused by new building projects not included in state support. Ninety per cent of this additional revenue was raised in the city of Wilmington. In Maryland certain minimum standards are maintained by providing that after a 67 cent county tax has been levied on a state-wide equalized assessment the state will provide the funds necessary to complete the amount required to maintain this minimum. In California the state provides 35 per cent of the cost of maintaining the elementary schools and a little over 50 per cent of the corresponding cost for high schools.

The present arrangement is a compromise. Legally, public education is a state function, but the state has delegated the function to the localities while still retaining certain powers, like that of prescribing minimum standards, and supplying partial state support from funds supplied from state-wide taxes. In 1922, when the total cash disbursements of the public school system amounted to 196 million dollars, the state grants to the localities were nearly 37 millions. In this year the localities themselves raised $138,030,994.[1] The plan by which state support is distributed among the localities has been described.[2] It remains to examine its results in actual operation and to study school expenditures in relation to economic resources under various assumptions regarding the size and character of school districts.

The Operation of the Present System of Subventions

The character of the present system of subventions is described in detail in Chapter VI. Almost all of the state aid is distributed primarily on a per-teacher quota basis which varies with the classification of the school district and in the case of one of the quotas, with the assessed valuation in the district. Approximately one-half of the state aid is entirely unaffected by the richness of the local economic resources back of the teacher, and the portion which is so affected is allocated in a manner which favors both the very rich and the very poor localities at the expense of those which are moderately well off.

Being convinced that the importance of the problem justified a somewhat extended investigation, the Commission undertook to classify the available data so as to reveal in detail the operation of the present subvention system under the present organization of school districts on the basis of 1920 costs and subventions. The increase in state aid since 1920 (see page 102) should be borne in mind in considering the figures. The details of this study are too elaborate for full presentation in this report, but the main results are summarized in Table 46.[3]

In the first column it will be noted that the largest amount of real estate value per child of school age ($7,750) is found in the rural districts where the average daily attendance in the schools is five or less, and that the smallest amount ($3,717) of real estate per child is found in the villages. As

[1] The remainder is accounted for by federal support, by state support in other forms than grants to the localities, and by loans of various types.

[2] See pp. 92–101.

[3] In making the detailed study the fiscal year ending July 31, 1920, has been chosen as the latest year for which complete data are available. A separate study has been made of each city and each of the villages under superintendents. For union and common school districts samples have been used. Union schools, as the term is used in this study, include all schools outside of the cities and villages named above, giving one or more years of high school work. From these, one school, the first alphabetically, offering four years of high school work, was chosen from each county. The same method of selection was employed for those schools offering one, two, and three years of high school work, respectively. These latter schools are not found in every county, however. There are over 10,000 common school districts in the state offering no

has been pointed out above (page 67) school costs tend to rise as the number of pupils in average daily attendance decreases. The figures in columns two and three show this clearly with reference to the rural schools. The

high school work. These have been designated rural schools. A sample of these has been chosen by taking, in each town, the first district, numerically, which contains one of these schools.

TOTAL NUMBER OF SCHOOL DISTRICTS OF EACH CLASS IN STATE, 1919–1920, AND NUMBER INCLUDED IN REPORT — STATE OF NEW YORK

	Number of Districts in State	Number of Districts Studied
Cities		
First-Class	3	3
Second-Class	7	7
Third-Class	49	49
Total Cities	59	59
Villages under Superintendents	46	46
Union Schools		
Four-Year Academies (High Schools)	424	57
Three-Year Academies	112	47
Two-Year Academies	34	24
One-Year Academies	49	26
Total Union Schools	619	154
One-Teacher and Other Rural Schools	10,500	926

The figures for revenues and expenditures, debt and valuation of school property, and children of school age, average daily attendance, and number of teaching positions were taken from the annual reports of the local boards of education and district superintendents to the State Department of Education. To obtain net revenues and expenditures, it was necessary to reclassify the items listed in these reports to some extent. Revenues were obtained by subtracting from total receipts the amount of the cash balance, proceeds from sale of bonds and sale of property, and the item "all other sources." This last item was included under non-revenue receipts when no further information was given since where "other sources" were definitely named they consisted almost entirely of the proceeds of temporary loans. Some small amounts of revenue may have been excluded from the revenue total in this way. Expenditures were obtained by subtracting from total payments all refunds, payments to sinking funds, and payments on bonds and temporary loans. The classification used follows, so far as feasible, that employed in the United States Census Bureau reports on financial statistics of cities and states. The population figures for cities, villages, and counties were obtained from the 1920 United States Census. Where the city or village boundaries are not coterminous with those of the school district the population was obtained by correspondence with the superintendents of such districts.

The population of union school districts was obtained from questionnaires sent to the school principals in each district. The reliability of these figures is somewhat questionable. No population figures were available for rural school districts. The figures for children of school age, which were taken in every case from the education reports mentioned above, are more complete and probably more accurate, although the total was larger than the total of the United States Census Bureau for 1920. (The total of the education reports for 1920 is 2,364,162 as compared with 2,336,427 in the census.) Most of the figures have been computed on the basis of children of school age (five to seventeen years inclusive) in the district as the best available measure of the task confronting each district.

The estimated true or full value of real estate in villages and rural school districts was computed in the following manner. The assessed value of real estate was found by applying the percentage of real estate value to total value of all taxable property (obtained from the figures in the reports of the State Tax Commission) to the figure for the assessed valuation of property given in the education reports.

School districts are not listed separately in the tax reports and it has been found necessary to use this ratio for the town in which the district occurs. It is the opinion of the members of the State Tax Department who gather these figures that the proportions of real estate and personalty assessed are about equal in rural and village communities, and in the different towns, and as all property in each town is assessed by the same assessor there should be no appreciable error in applying this ratio.

The figure for the assessed value of real estate was increased to the estimated true value of real estate by applying the ratio of equalization given by the State Tax Commission for each village and town. The estimated true valuation of real estate for counties and cities is that published in the report of the State Tax Commission. These valuations for the cities were found to check within one per cent with the figures estimated from the education reports in the manner described above except in a few instances. Most of

districts with small attendance and high real estate values also have high net expenditures and higher school taxes per child.

TABLE 46

COMPARISON OF REAL ESTATE VALUATIONS PER CHILD OF SCHOOL AGE WITH EXPENDITURES AND SOURCES OF REVENUE PER CHILD OF SCHOOL AGE[1] — STATE OF NEW YORK, 1920

	1	2	3	4	5	6
	Full Value of Real Estate per Child	Net Expenditure per Child	School Tax per Child	True School Tax Rate per $100	State Aid per Child	Percentage of Revenue from State Aid
First-Class Cities	$5479	$55.75	$40.14	$ .72	$ 3.89	8.8%
Second-Class Cities	5044	42.07	39.52	.78	5.22	12.5
Third-Class Cities	4177	42.05	35.59	.80	5.94	14.0
Villages over 4,500	3717	41.68	34.59	.83	6.44	15.6
4-Year Union Schools	4090	59.60	42.68	1.05	11.93	23.4
3-Year Union Schools	5105	63.75	46.52	.91	14.00	23.3
2-Year Union Schools	4214	58.00	47.06	.98	14.33	22.1
1-Year Union Schools	5821	58.77	48.78	.82	9.99	19.0
Rural Schools						
Average Daily Attendance 16 and over	4444	34.85	26.43	.53	7.73	22.6
Average Daily Attendance 11–15	4938	41.20	29.08	.57	12.50	30.6
Average Daily Attendance 6–10	5716	54.03	35.57	.59	17.94	33.8
Average Daily Attendance 0–5	7750	82.50	54.00	.65	27.94	37.5
Contract Districts[2]	6750	47.50	23.75	.43	18.33	39.2

[1] All of the figures in this table are medians (middle eases).

[2] A eontract district is one eontraeting with another distriet for thc edueation of all its ehildren instead of maintaining a home sehool.

The figures in column four show that in the rural districts, in spite of the much higher costs per child, the true school tax rate is not much greater in districts with small attendance than in districts with larger attendance, since the higher value of real estate tends to keep down the rate. The true tax rates in school districts other than the rural districts average

these werc eities where the eity and sehool distriet boundaries are not eoterminous. The estimatcs based on the education report data were used for these. One eity, Utica, was found to have assessed and taxed for sehool purposes in this ycar (under a mistaken interpretation of the law) a large amount of personalty whieh was not taxed for other purposes and eonsequently did not appear on the eity assessment roll. Other eities had used the 1918 or 1920 assessment roll for school taxes instead of that for 1919. Personalty was exeluded from all of these valuations on account of the diffieulty of estimating the true value of such property aceurately, and also for the reason that the amount of taxable personalty was small enough to be negligible and will probably be exempted in a short time.

Only 1.7 per cent of the assessed value of all property in 1920 was personalty, and the exemption of all such personalty from taxation has been recommended by the Joint Committee on Taxation and Retrenchment. (Rcport, 1922, p. 45.)

higher. The highest average true school tax rate is found in the union school districts maintaining four-year high schools.

With these facts in mind the data with regard to state aid may be considered. Taking first the villages, which it will be recalled have the lowest real estate values per child of school age, it is found that state aid supplied in 1920 only $6.44 per child, whereas in the rural schools of less than five in average daily attendance, which have the largest real estate values, state aid supplied $27.94 per child.[1]

TABLE 47

COMPARISON OF REAL ESTATE VALUATIONS PER CHILD OF SCHOOL AGE WITH EXPENDITURES AND REVENUE PER CHILD OF SCHOOL AGE — RANKS ON BASIS OF MIDDLE CASE IN EACH GROUP[7]
STATE OF NEW YORK, 1920

	1	2	3	4	5	6
	Full Value of Real Estate per Child	Net Expenditures per Child	School Tax per Child	True School Tax Rate	State Aid per Child	Percentage of Revenue from State Aid
First-Class Cities	5	6	6	8	13	13
Second-Class Cities	7	9	7	7	12	12
Third-Class Cities	11	10	8	6	11	11
Villages over 4,500	13	11	10	4	10	10
4-Year Union Schools	12	3	5	1	7	5
3-Year Union Schools	6	2	4	3	5	6
2-Year Union Schools	10	5	3	2	4	8
1-Year Union Schools	3	4	2	5	8	9
Rural Schools[1] Average Daily Attendance 16 and over	9	13	12	12	9	7
Rural Schools[2] Average Daily Attendance 11–15	8	12	11	11	6	4
Rural Schools[3] Average Daily Attendance 6–10	4	7	9	10	3	3
Rural Schools[4] Average Daily Attendance 5 or less	1	1	1	9	1	2
Contract[6] Districts[5]	2	8	13	13	2	1

[1] 364 cases. [2] 219 cases. [3] 226 cases. [4] 59 cases. [5] 36 cases.
[6] A contract district is one contracting with another district for the education of all its children instead of maintaining a home school. [7] See footnote 3 on p. 162.

Table 47 is built up by ranking the thirteen classes into which the school districts are divided in Table 46 on the basis of the factors enumerated in the headings of that table.

[1] It is true of course, as shown in column two, that the costs are higher in the rural schools with small attendance. To provide "equal opportunity" for children in sparsely settled country sections must be expected to cost more per child than in the more populous districts of the state. But column four indicates that the present distribution of state aid more than makes up for the higher costs of the rural schools in the sparsely settled areas as compared with the villages and union school districts.

Perhaps the most interesting comparison is between column one showing the value of real estate per child and column five showing state aid per child. It is realized that real estate is an imperfect measure of economic resources, but if it were a perfect measure, and if the system of state aid were operating perfectly to relieve economic inequalities, then the ranking in the real estate column should be exactly the reverse of the ranking of the state aid column. The actual situation is seen to be quite different. The schools showing the highest real estate values per child (rural schools with average attendance of less than five) also rank first in the distribution of state aid. The schools which show the lowest real estate values (villages), instead of being at the top in so far as state aid is concerned, rank fourth from the bottom.

In the ranking according to true school tax rate (column four) it appears that the rural schools occupy the five lowest places. The ranking of these rural school districts with respect to state aid received (column five) is again almost exactly opposite from what one might expect. In this scale instead of occupying the lowest places, they rank 1, 2, 3, 6, and 9.

State Aid under a County System

By increasing the size of the unit of school administration and support, rich territory tends to be merged with poor territory and extreme differences in the economic resources of the units tend to be reduced. This process obviously simplifies the problem of apportioning funds for the equalization of educational opportunity and of tax burden. In view of the various proposals which have been advanced in favor of larger school districts as a solution of the problem of economic support it is of interest to examine the proportions of the task which would remain to be performed by the state subvention system, if the unit were made as large as the county.

In the analysis by school districts in the preceding section, real estate was the only available index of economic resources. When counties are made the basis of study, it is possible to utilize the facts regarding taxable income as an additional measure of resources. At the urgent request of the Joint Legislative Committee on Taxation and Retrenchment and of the Educational Finance Inquiry, the statistical division of the State Tax Commission undertook to make a complete distribution of 1921 taxable incomes among the several counties of the state. Consequently, for the first time, reliable information regarding income is available as an aid in forming a judgment regarding the economic resources of the various counties of the state. Hitherto, taxable real estate has been the only measure available.

Table 48 is a master table which presents the underlying data upon which the discussion in this section rests.

TABLE 48

DISTRIBUTION OF SIGNIFICANT DATA WITH REFERENCE TO ECONOMIC RESOURCES AND SCHOOL EXPENDITURES FOR THE CITY OF NEW YORK AND FOR THE COUNTIES OF THE STATE OF NEW YORK, 1921

	Taxable Income	Full Value of Taxable Real Estate	Total Education Expenditure[1]	State Apportionment[1]	Pupils in A. D. A.	Children of School Age	Number of Teachers[2]
City of New York	$ 2,194,157,412	$ 10,871,493,613[3]	$ 58,678,228.80	$ 5,050,160.75	776,246	1,313,893	24,139.50
Albany	44,220,016	219,263,844	331,287.85	187,447.99	18,640	35,721	789.75
Allegany	3,031,178	46,882,827	440,405.85	115,584.17	6,212	7,756	403.00
Broome	25,909,523	126,225,317	1,229,737.30	171,829.11	16,353	25,062	817.75
Cattaraugus	9,111,012	79,888,095	893,712.47	162,549.39	12,132	17,118	632.00
Cayuga	8,913,162	66,923,071	630,945.31	123,720.86	8,409	14,204	495.25
Chautauqua	15,377,162	128,410,643	1,268,489.97	231,303.18	18,435	28,336	894.75
Chemung	12,166,081	68,007,010	626,826.82	99,990.89	8,438	13,807	410.50
Chenango	3,714,507	32,366,111	434,819.01	104,997.55	5,574	7,132	345.00
Clinton	3,468,438	30,158,704	412,289.44	92,438.47	5,929	10,505	335.25
Columbia	5,000,396	44,140,960	323,486.65	75,626.33	5,419	7,666	273.25
Cortland	4,710,869	28,696,229	257,157.33	72,300.96	4,302	5,684	241.50
Delaware	3,018,371	46,837,457	467,601.34	141,463.93	6,794	9,180	459.25
Dutchess	19,398,796	113,410,084	691,109.98	124,733.51	11,849	15,965	516.00
Erie	154,410,205	939,056,753	7,561,565.84	746,086.78	71,198	155,781	3,223.00
Essex	3,049,216	37,745,136	447,894.35	77,589.64	5,321	7,714	317.25
Franklin	4,795,666	41,860,862	415,589.23	103,250.67	6,661	10,228	356.25
Fulton	6,567,897	40,298,548	404,090.04	72,724.32	6,916	8,661	303.25
Genesee	4,346,008	55,188,878	349,636.95	72,116.84	5,961	8,593	315.25
Greene	2,016,637	24,371,671	235,038.12	59,670.78	3,699	5,165	180.00
Hamilton	240,816	11,174,310	73,698.33	15,013.74	591	797	56.00
Herkimer	9,220,722	75,973,533	656,365.61	117,667.86	9,988	12,896	305.50
Jefferson	12,089,701	96,636,875	804,522.27	182,808.07	13,009	18,331	857.75
Lewis	1,766,502	26,587,252	241,765.97	74,460.46	3,689	5,013	257.50
Livingston	3,972,892	47,474,908	375,582.80	80,224.92	4,803	6,923	301.25
Madison	5,382,615	39,560,217	421,467.35	100,905.17	6,756	7,922	354.25
Monroe	101,752,991	540,507,891	4,027,780.98	258,175.43	43,288	72,226	1,973.50
Montgomery	10,092,136	59,532,216	452,912.54	82,344.83	8,124	12,144	362.00
Nassau	51,159,329	295,374,423	1,916,755.46	191,596.09	20,548	28,176	817.00
Niagara	21,477,435	198,847,003	1,210,417.58	157,963.02	16,774	30,241	713.50
Oneida	33,311,509	196,869,536	2,137,224.97	344,083.92	25,403	37,314	1,152.00
Onondaga	58,465,867	314,344,821	2,180,734.77	294,436.90	36,063	42,084	1,291.50
Ontario	7,476,292	73,013,963	478,187.01	109,577.05	7,324	11,880	398.75
Orange	24,571,354	145,054,161	1,165,793.73	160,332.06	16,938	21,926	698.00
Orleans	3,337,044	40,636,404	277,751.84	61,567.21	4,362	6,045	233.50
Oswego	7,836,655	74,282,804	617,538.28	148,676.84	9,870	15,413	517.50
Otsego	7,029,386	48,213,873	456,162.45	129,053.15	6,591	8,399	397.25
Putnam	2,865,499	24,679,183	126,660.10	25,484.05	1,590	2,055	91.50
Rensselaer	20,384,332	108,274,474	831,008.33	150,488.78	12,009	21,985	579.50
Rockland	12,063,544	56,704,418	429,229.74	70,030.50	6,822	10,350	151.00
St. Lawrence	6,917,934	82,820,290	835,808.61	210,030.29	12,428	17,703	747.75
Saratoga	8,321,130	61,884,043	629,356.33	118,392.86	8,655	12,139	448.50
Schenectady	23,359,238	141,680,587	1,471,234.77	157,433.84	17,980	26,516	719.00
Schoharie	1,543,861	16,981,623	194,100.11	60,506.89	2,929	3,858	197.25
Schuyler	938,011	13,714,429	133,545.24	36,966.64	1,922	2,361	129.00
Seneca	1,957,698	27,133,324	188,978.70	42,900.00	2,920	4,403	159.75
Steuben	10,037,714	72,267,394	731,639.07	179,264.14	11,826	15,629	675.50
Suffolk	24,059,808	204,577,615	1,148,908.30	164,806.24	17,199	22,738	724.50
Sullivan	2,597,783	40,212,019	327,176.46	87,903.66	5,730	8,357	287.75
Tioga	2,110,975	20,812,909	263,063.10	68,663.21	3,943	4,792	226.75
Tompkins	7,260,478	43,511,420	487,515.67	79,072.73	5,292	7,570	290.00
Ulster	9,604,816	74,377,963	514,044.22	122,059.22	10,227	15,171	444.25
Warren	5,685,921	36,703,408	278,618.59	56,971.80	3,875	5,490	213.75
Washington	4,424,205	35,482,162	409,045.76	110,472.74	6,790	9,259	386.75
Wayne	4,766,454	61,788,819	474,435.62	105,634.24	8,388	10,332	395.00
Westchester	177,008,903	748,559,450	6,140,935.83	503,450.16	57,065	80,010	2,284.75
Wyoming	2,277,499	33,585,677	331,455.79	77,211.21	5,009	6,669	296.25
Yates	1,154,348	20,185,277	150,167.31	48,900.65	2,439	3,139	149.00

[1] 1920. [2] Fractions caused by some teachers teaching part of a school year. [3] This figure was later corrected to $10,961,681,401, but the original figure was used as a basis for collecting the tax.

TABLE 49

INCOME, FULL VALUE TAXABLE REAL ESTATE, AND "INDEX OF ECONOMIC RESOURCES" PER PUPIL IN AVERAGE DAILY ATTENDANCE, PER CHILD OF SCHOOL AGE AND PER TEACHER, FOR THE CITY OF NEW YORK AND FOR THE COUNTIES OF THE STATE OF NEW YORK, 1921

	Income			Full Value Taxable Real Estate			Index of Economic Resources[1]		
	Per Pupil in A.D.A.	Per Child School Age	Per Teacher	Per Pupil in A. D. A.	Per Child School Age	Per Teacher	Per Pupil in A. D. A.	Per Child School Age	Per Teacher
City of N. Y.	$2,827	$1,670	$90,895	$14,005	$8,274	$450,361	$2,114	$1,249	$67,966
Albany	2,372	1,238	55,992	11,763	6,138	277,637	1,774	926	41,878
Allegany	488	391	7,522	7,547	6,045	116,335	621	498	9,577
Broome	1,584	1,034	31,684	7,719	5,037	154,357	1,178	769	23,560
Cattaraugus	751	532	14,416	6,585	4,667	126,405	705	499	13,528
Cayuga	1,060	628	17,997	7,959	4,712	135,130	928	549	15,755
Chautauqua	834	543	17,186	6,966	4,532	143,516	765	498	15,769
Chemung	1,442	881	29,637	8,060	4,926	165,669	1,124	687	23,102
Chenango	666	521	10,767	5,807	4,538	93,815	624	487	10,074
Clinton	585	330	10,346	5,087	2,871	89,959	547	309	9,671
Columbia	923	652	18,300	8,146	5,758	161,541	869	614	17,227
Cortland	1,095	829	19,507	6,670	5,049	118,825	881	667	15,695
Delaware	444	329	6,572	6,894	5,102	101,987	567	420	8,386
Dutchess	1,636	1,215	37,595	9,571	7,104	219,787	1,297	963	29,787
Erie	2,169	991	47,909	13,189	6,028	291,361	1,744	797	38,522
Essex	573	395	9,611	7,094	4,893	118,976	641	442	10,754
Franklin	720	469	13,462	6,284	4,093	117,504	674	439	12,606
Fulton	950	758	21,658	5,827	4,653	132,889	766	612	17,474
Genesee	729	506	13,786	9,258	6,423	175,064	827	574	15,646
Greene	545	390	11,204	6,589	4,719	135,398	602	431	12,372
Hamilton	407	302	4,300	18,907	14,020	199,541	1,149	852	12,127
Herkimer	923	715	30,182	7,606	5,891	248,686	842	652	27,525
Jefferson	929	660	14,095	7,428	5,272	112,663	836	593	12,680
Lewis	479	352	6,860	7,207	5,304	103,251	600	441	8,593
Livingston	827	574	13,188	9,884	6,858	157,593	908	630	14,474
Madison	797	679	15,194	5,856	4,994	111,673	691	589	13,181
Monroe	2,351	1,409	51,560	12,486	7,484	273,883	1,800	1,079	39,474
Montgomery	1,242	831	27,879	7,328	4,902	164,454	988	661	22,162
Nassau	2,490	1,816	62,618	14,375	10,483	361,535	1,964	1,432	49,386
Niagara	1,280	710	30,102	11,854	6,575	278,692	1,233	684	28,985
Oneida	1,311	893	28,916	7,750	5,276	170,894	1,043	710	23,003
Onondaga	1,621	1,389	45,270	8,717	7,469	243,395	1,246	1,068	34,805
Ontario	1,021	628	18,749	9,969	6,146	183,107	1,009	622	18,530
Orange	1,451	1,120	35,203	8,564	6,616	207,814	1,154	891	27,992
Orleans	765	552	14,291	9,316	6,722	174,032	848	612	15,847
Oswego	794	508	15,143	7,526	4,819	143,542	773	495	14,749
Otsego	1,067	837	17,695	7,315	5,740	121,369	899	705	14,916
Putnam	1,802	1,394	31,317	15,521	12,009	269,718	1,677	1,298	29,144
Rensselaer	1,697	927	35,176	9,016	4,925	186,841	1,300	710	26,930
Rockland	1,768	1,166	79,891	8,312	5,479	375,526	1,300	857	58,722
St. Lawrence	557	391	9,252	6,664	4,678	110,759	612	429	10,164
Saratoga	961	685	18,553	7,150	5,098	137,980	838	598	16,176
Schenectady	1,299	881	32,489	7,880	5,343	197,052	1,044	708	26,097
Schoharie	527	400	7,827	5,798	4,402	86,092	553	420	8,218
Schuyler	483	397	7,271	7,135	5,809	106,313	601	489	8,951
Seneca	670	445	12,255	9,292	6,162	169,849	800	530	14,620
Steuben	848	642	14,860	6,111	4,624	106,984	730	552	12,779
Suffolk	1,399	1,058	33,209	11,895	8,997	282,371	1,294	979	30,723
Sullivan	453	311	9,028	7,018	4,812	139,746	578	396	11,501
Tioga	535	441	9,310	5,278	4,343	91,788	532	437	9,244
Tompkins	1,372	959	25,036	8,222	5,748	150,039	1,097	767	20,020
Ulster	939	633	21,620	7,273	4,903	167,424	833	562	19,181
Warren	1,467	1,036	26,601	9,472	6,686	171,712	1,207	852	21,886
Washington	652	478	11,439	5,226	3,832	91,744	587	431	10,307
Wayne	568	461	12,067	7,366	5,980	156,427	652	530	13,855
Westchester	3,102	2,212	77,474	13,118	9,356	327,633	2,207	1,574	55,119
Wyoming	455	342	7,688	6,705	5,036	113,369	563	423	9,512
Yates	473	368	7,747	8,276	6,430	135,472	650	505	10,647

[1] Index of economic resources $= \frac{(\text{Taxable income}) + (\frac{1}{10} \text{ Full value of real estate})}{2}$. See p. 171.

Table 49 presents results obtained when income, real estate values, and the combination of these values, which will hereafter be described as the index of economic resources, are related to certain measures of the size of the educational task.

That reported taxable income is distributed among the counties in a very different manner from real estate is apparent from the inspection of the figures. The extreme variation in real estate values in the school districts has already been noted. Taking the county as a unit, the value of the real estate per pupil in average daily attendance varies from $5,087 in Clinton County to $18,907 in Hamilton County. The variation in income proves to be even greater than that in the real estate figures. The lowest income per pupil in average daily attendance is $407 in Hamilton County. The highest is $3,102 in Westchester County. That these variations in income are not commonly accompanied by a like variation in real estate values will appear in the table presented below.

TABLE 50

RELATIONSHIP BETWEEN TOTAL TAXABLE INCOME AND FULL VALUE OF REAL ESTATE BY COUNTIES—STATE OF NEW YORK, 1921

Name of County	Percentage Which Income Is of Full Value of Real Estate	Rank
City of New York	20.2%	4½
Albany	20.2	4½
Allegany	6.5	54½
Broome	20.5	3
Cattaraugus	11.4	36
Cayuga	13.3	25
Chautauqua	12.0	30
Chemung	17.9	9
Chenango	11.5	34
Clinton	11.5	34
Columbia	11.3	37
Cortland	16.4	17½
Delaware	6.4	56
Dutchess	17.1	11
Erie	16.4	17½
Essex	8.1	47
Franklin	11.5	34
Fulton	16.3	19
Genesee	7.9	48
Greene	8.3	45
Hamilton	2.2	58
Herkimer	12.1	29
Jefferson	12.5	27½
Lewis	6.6	53
Livingston	8.4	43½
Madison	13.6	23
Monroe	18.8	6½

(*Table 50 continued on following page.*)

TABLE 50 (*Continued*)

RELATIONSHIP BETWEEN TOTAL TAXABLE INCOME AND FULL VALUE OF REAL ESTATE BY COUNTIES—STATE OF NEW YORK, 1921

Name of County	Percentage Which Income Is of Full Value of Real Estate	Rank
Montgomery	17.0	12
Nassau	17.3	10
Niagara	10.8	38
Oneida	16.9	13½
Onondaga	18.6	8
Ontario	10.2	40
Orange	16.9	13½
Orleans	8.2	46
Oswego	10.5	39
Otsego	14.6	21
Putnam	11.6	32
Rensselaer	18.8	6½
Rockland	21.3	2
St. Lawrence	8.4	43½
Saratoga	13.4	24
Schenectady	16.5	16
Schoharie	9.1	42
Schuyler	6.8	51½
Seneca	7.2	50
Steuben	13.9	22
Suffolk	11.8	31
Sullivan	6.5	54½
Tioga	10.1	41
Tompkins	16.7	15
Ulster	12.9	26
Warren	15.5	20
Washington	12.5	27½
Wayne	7.7	49
Westchester	23.6	1
Wyoming	6.8	51½
Yates	5.7	57

The figures reported in this table are the percentage which the total taxable income in each county is of the full value of real estate in that county. The range in these percentages is from 2.2 per cent in Hamilton County to 23.6 per cent in Westchester County. The ratios for other counties range rather uniformly between these extremes.

The income figures, as presented in these tables, have a shortcoming to which particular attention should be called. Income tax returns are filed at the place of residence of the recipient. Thus an individual whose residence is established in the City of New York files his income return there irrespective of where the income arises. This individual may have interests in various sections of the state. He may, in addition to his town house in the city, own a factory in Buffalo, an estate in Westchester, and a camp in the Adirondacks. Yet his economic strength, so far as income is

concerned, would be credited entirely to the city in which his return is filed. It is important to bear in mind the fact that the distribution of the taxable incomes among the counties yields an exhibit of the economic resources of the people of the county rather than of the counties themselves.

Whether real estate values alone or taxable incomes alone are adopted as the measure of economic resources, those resources appear to vary greatly in relation to the educational task. Even though the boundaries of the local unit were expanded from their present narrow limits and made co-extensive with those of the counties, this would not result in the elimination or even in the reduction in the task to be performed by the state subvention system if equalization were to be achieved.

It should be borne in mind that real estate and income are used in this chapter as measures of the economic resources of the counties, rather than as directly available tax bases. When mention is made of the taxable income in a county, for example, it is not to be inferred that a local tax on income is suggested. The question of methods of taxation for tapping these economic resources is discussed in another place.[1]

Since both real estate values and income are presented as measures of the same thing — economic resources — and since there are cases of wide divergence in the measures, some counties which have large real estate values and small incomes and *vice-versa*, the question arises as to whether some combination of the two measures would not result in a more useful index of resources than either of the two measures alone. The data presented in Table 49 under the heading "Index of Economic Resources" represent the result of such a combination when related to certain measures of the educational task.

This index is presented in the belief that it is distinctly more trustworthy than the indices resting upon real estate or property values alone which are often used in studies of this type. Nevertheless, it is presented with a degree of diffidence because it is realized that the statistical problem involved in establishing the precise weight to be assigned to income as compared with real estate cannot be solved with exactness with the resources at the disposal of the Commission.[2] After con-

[1] See p. 156 *et seq.*

[2] There are several factors of importance which affect this problem of determining the precise weight to be assigned to income as compared with real estate, concerning which statistical evidence is meager. The income figures include net incomes from real estate so far as they are taxable. The real estate figures although they comprise an important element in total wealth (17 out of 25 billion dollars according to the 1912 census), represent after all only one element. The income figures do not represent total income but only taxable income (3,216 millions as compared with an estimated total income of 7,530 millions of dollars). Again they include not merely income from property, but income from personal services as well. Moreover, real estate values as a measure of taxable resources can be interpreted only by taking into account the present and expected real estate tax burden, because, under the theory of capitalization, the real estate values quoted are based upon net incomes after taxes have been paid. Such are the factors entering into the problem.

A truly satisfactory index must certainly take wealth as well as income into account. New data respecting wealth and income in the state will soon be available from the census and from other sources which

siderable study and consultation with the economic advisers to the Commission the following definition was arrived at:

$$\text{Index of economic resources} = \frac{(\text{Taxable income}) + (\frac{1}{10}\ \text{Full value of real estate})}{2}.$$

This definition assigns to a dollar of income ten times the importance given to a dollar of real estate value. Thus a county with twenty millions of real estate value and one million of taxable income is given the same index of economic resources as a second county which has only ten millions of real estate, but two millions of taxable income.

It has been shown that if real estate is accepted as a measure of economic resources, the system of state aid as at present organized does not succeed in removing the financial inequalities among the school districts of the state. Nor does the present system of state aid, when computed on the county basis, show the proper correlation with the index of economic resources developed in this section.[1]

should be of assistance in establishing the proper weighting of a formula. If it should prove desirable to reconstruct the subvention system of the state in a manner which involves the use of an index of economic resources, it is urged that an exhaustive study be made with the object of establishing as precisely as possible the proper weighting of the various elements entering into it.

The Commission, realizing that with the resources at its disposal, it could not hope to solve this weighting problem exactly, decided to test the data to ascertain the importance of precision in the weighting. Experiment showed that, so far as affecting the relative ranking of the counties in a scale was concerned, a wide variation in the weight assigned to income as compared with real estate produced remarkably slight variations.

Four methods of combining these values were tested. The amount of taxable income per county was added to $\frac{1}{5}$, $\frac{1}{10}$, $\frac{1}{15}$, and $\frac{1}{20}$ of the full value of real estate in that county, and the sums divided by two to produce four different measures or indices of the economic resources of the several counties. The counties were then ranked on the basis of the four indices and the other three distributions were compared with the index obtained by using the combination of income and $\frac{1}{10}$ of the value of real estate. The close correspondence in the ranking of the counties, whatever the method of combination, is shown in the table following:

DEVIATIONS BETWEEN RANKS WHEN COMBINING INCOME WITH FOLLOWING PERCENTAGE OF VALUE OF REAL ESTATE

$\frac{1}{10}$ AND $\frac{1}{5}$		$\frac{1}{10}$ AND $\frac{1}{15}$		$\frac{1}{10}$ AND $\frac{1}{20}$	
DEVIATION	NO. CASES	DEVIATION	NO. CASES	DEVIATION	NO. CASES
0	24	0	40	0	33
1	23	1	14	1	15
2	4	2	4	2	9
3	4	3	0	3	1
4	2	4	0	4	0
5	1	5	0	5	0
Median	1		0		0
Middle Fifty per cent	0–1		0–1		0–1

The index making use of $\frac{1}{15}$ of the value of real estate is most closely related to that using $\frac{1}{10}$, but in no case is the deviation of the rank of the middle case more than one case.

[1] Evidence of this failure of state apportionment in equalizing differences in the total economic resources among counties is presented on the next page in the table of coefficients of correlation using counties as units.

"Equalization of Educational Opportunity"

There exists today and has existed for many years a movement which has come to be known as the "equalization of educational opportunity" or the "equalization of school support." These phrases are interpreted in various ways. In its most extreme form the interpretation is somewhat as follows: The state should insure equal educational facilities to every child within its borders at a uniform effort throughout the state in terms of the burden of taxation; the tax burden of education should throughout the state be uniform in relation to tax-paying ability,[1] and the provision for schools should be uniform in relation to the educable population desiring education. Most of the supporters of this proposition, however, would not preclude any particular community from offering at its own expense a particularly rich and costly educational program. They would insist that there be an adequate minimum offered everywhere, the expense of which should be considered a prior claim on the state's economic resources.[2]

	On Basis of Gross Amounts*				Correlations among Various Per-Capita Figures		
	Direct Correlation (except *D*)	Partial Correlations, Each of Following Made Constant:			Per Child 5–17	Per Pupil in A. D. A.	Per Teacher
		Total Children 5–17	Total Pupils in A.D.A.	Total Teachers			
A. Economic Resources and School Expenditures	+.837	+.100	−.055	+.381	+.340	+.363	+.788
B. School Expenditures and State Apportionment	+.874	+.192	+.279	+.092	+.359	+.052	−.056
C. Economic Resources and State Apportionment	+.773	−.343	+.092	−.342	−.470	−.631	−.225
D. Economic Resources and School Expenditures, State Apportionment Being Made Constant	+.524	+.170	−.084	+.416	+.618	+.511	+.797

*New York City and Erie, Monroe, and Westchester Counties do not figure in the first four columns. These are the groups especially affected by the three first-class cities, New York, Buffalo, and Rochester. The gross amounts for these four groups were so much greater than in the 54 other counties that correlation coefficients based on figures for all the 58 groups were practically meaningless.

A comparison of items "A" and "D" shows in column (1) that there is a higher correlation between economic resources and the total expenditures for schools, than there is between economic resources and school expenditures when the state apportionment to counties has been equalized. In other words, the addition of the state apportionment to the amount raised locally for the support of schools tends to make more perfect the correspondence between high economic resources and large school expenditures. Item "C" of the table shows in five of the seven columns that there is a negative relationship between economic resources and the state apportionment, but these coefficients are very much less than the −1.00 which would result were the state aid system based entirely upon the economic resources of communities.

[1] It should be observed that equalization of the rate of taxation for educational purposes in the different sections of the state would not result in a uniform total tax rate throughout the state. There are other essential governmental needs besides public education which must be provided for in varying amounts, and at varying costs by the different localities.

[2] A good statement of this policy, as popularly interpreted, was given in a recent editorial which advocated "such legislation as would assure the country child educational advantages in every corner of the state comparable with those of the city child, and at the same time equalize the educational burden so far as that could be done." *Times*, New York, January 24, 1923.

This proposal assumes, of course, that the interest of the state in providing an equal educational opportunity for each child outweighs the possible economic objection that the operation of such a plan involves a subsidy to economically backward communities, with its attendant possibilities of misdirected economic effort. It is proposed in this section to examine some of the fiscal implications of this principle.

To carry into effect the principle of "equalization of educational opportunity" and "equalization of school support" as commonly understood it would be necessary (1) to establish schools or make other arrangements sufficient to furnish the children in every locality within the state with equal educational opportunities up to some prescribed minimum; (2) to raise the funds necessary for this purpose by local or state taxation adjusted in such manner as to bear upon the people in all localities at the same rate in relation to their tax-paying ability, and (3) to provide adequately either for the supervision and control of all the schools, or for their direct administration, by a state department of education.

The simplest method of financing the school system to achieve the aims of the principle would be through uniform state-wide taxes based on ability-to-pay. Such a proposal, however, encounters serious obstacles such as the difficulties of centralizing the administration of school funds, in large states particularly, without deadening local interest and initiative, and the difficulties of developing a suitable revenue system with the necessary central control of assessments and rates. The strength of position in favor of local control of schools and of school finances makes it desirable to inquire what measure of responsibility for financial support may be left to the localities, if the aims of the principle are to be gained. The essentials are that there should be uniformity in the rates of school taxation levied to provide the satisfactory minimum offering and that there be such a degree of state control over the expenditure of the proceeds of school taxes as may be necessary to insure that the satisfactory minimum offering shall be made at a reasonable cost. Since costs vary from place to place in the state, and bear diverse relationships to the tax-paying abilities of the various districts, the achievement of uniformity would involve the following:

(1) A local school tax in support of the satisfactory minimum offering would be levied in each district at a rate which would provide the necessary funds for that purpose in the richest district.

(2) This richest district then might raise all of its school money by means of the local tax, assuming that a satisfactory tax, capable of being locally administered, could be devised.[1]

(3) Every other district could be permitted to levy a local tax at the same rate and apply the proceeds toward the costs of schools, but —

(4) Since the rate is uniform, this tax would be sufficient to meet the costs

[1] The question of progressive rates enters here to complicate the problem.

only in the richest districts and the deficiencies would be made up by state subventions.[1]

As an example of the application of this principle to the State of New York, the following calculation, based on the data submitted in this chapter, is presented. In this calculation it is assumed that the local unit is the county, that costs are uniform throughout the state, and that the cost per pupil is that obtained by dividing the total school expenditure of the year by the total number of pupils in average daily attendance. The assumed amount of the expense per pupil has no effect on the percentages.

The richest county in the state, according to the index of economic resources back of each pupil in average daily attendance, is Westchester County. Under the plan outlined on page 166 there might be levied in this county a local tax sufficient to meet its entire school cost, assuming those costs to be based upon the uniform per-pupil cost as computed above. A tax imposed at the same rate in all of the other counties would raise in the state as a whole a sum sufficient to pay 77.5 per cent of the total school expenditure. The balance, or 22.5 per cent, of the total amount necessary to finance the schools would remain to be raised by means of a state-wide uniform tax. In other words, even though the size of the school district were expanded from its present small limits to the county basis, it would still be necessary to increase somewhat the amount raised by the state and distributed among the localities as state aid. In 1922 the state aid amounted to $41,114,317, or 21 per cent of the total cash disbursements of $196,034,409. According to this calculation it would be necessary for the state to increase its state aid to 22.5 per cent of the total.[2]

[1] The proposition has been seriously advanced by some students of the problem (for example, Harlan Updegraff, *Financial Support*, "Rural School Survey of New York State," 1922, p. 112 *et seq.*) that a system of state aid may and should be used to achieve simultaneously the double object of equalizing the variations in the economic resources of the various localities, and of rewarding such communities as make a special "effort" in the direction of providing local school facilities. If the sums given to localities as rewards are so substantial that they result in a perceptible diminution of tax burden of the locality which makes the unusual effort, they tend to destroy the equality of tax burden called for under the principle. Moreover, this does not take into account the origin of the funds which are distributed as "rewards." If, as would be probable, they come from a fund supplied by state-wide taxes, it will normally mean that a locality which makes a special "effort," be it rich or poor, will profit at the expense of the other counties of the state, rich and poor. It is difficult to see how equality can be achieved under a formula which includes as an integral part, an arrangement for rewards paid without regard for the economic strength of the locality receiving the bonus or the added burden upon other counties which are taxed to supply the funds from which the bonus is paid. Any formula which attempts to accomplish the double purpose of equalizing resources and rewarding effort must contain elements which are mutually inconsistent. It would appear to be more rational to seek to achieve local adherence to proper educational standards by methods which do not tend to destroy the very uniformity of effort called for by the doctrine of equality of educational opportunity.

[2] The richest county in the state in terms of economic resources per pupil is Westchester. The formula, $\frac{\text{(Taxable income)} + (\frac{1}{10}\text{ Full value of real estate})}{2}$, divided by (Number of pupils in A. D. A.) gives a figure of $2,207 for this county.

The state-wide expenditure per pupil was $109,691,502 divided by 1,443,647 pupils, or $75.98.

The percentage which it would be necessary to apply to economic resources to obtain this amount per pupil in Westchester County is $75.98 divided by $2,207, or 3.443.

The total economic resources of the state, $\frac{\text{(Taxable income)} + (\frac{1}{10}\text{ Full value of real estate})}{2}$, are

The principle of equality of educational opportunity, followed to its logical conclusion, is found to arrive at the equivalent of a state educational system, which requires a satisfactory state-wide minimum offering supported by taxes of uniform weight in relation to tax-paying ability throughout the state. This is clearly the destination toward which present forces are tending. The seriousness of the problems to be solved before that destination can be reached should be borne in mind, however. Unless local interest and initiative can be preserved and encouraged and unless the necessary revenue reforms can be attained, the progress of the movement toward equalization may be arrested; moreover, the desirability of continuing to levy and collect locally such part of the school revenues as can conveniently and economically be so administered should not be overlooked.

While it is scarcely probable that the state in the near future will go the full length of placing the finances of public education on a state-wide basis, it will, nevertheless, be desirable for those responsible for the formulation of the tax system of the state to bear in mind the possibility of this development. Moreover, there seems to be good ground for the belief that whatever may be done in the direction of enlarging the size of school districts, the subvention problem of the state must increase rather than decrease in importance if equalization is to be attained.

Even though no material change is made in the amount of state support, the present system of apportioning state aid among the localities has no valid excuse for continued existence. It is suggested that the needed revision will prove beneficial in proportion as it bases grants of state aid to education on the best obtainable knowledge of the cost of the satisfactory minimum of schooling, and the best obtainable measures of the economic resources of the several school units.

$2,470,515,304. A percentage of 3.443 levied on this amount would yield $85,059,842. This amount is 77.5 per cent of the total amount needed to provide a state-wide expenditure of $75.98 per pupil in A. D. A. To raise this amount it would be necessary to make a levy of .997 of one per cent additional. The total state-wide school percentage would therefore be 4.44 per dollar of total economic resources. On this basis 3.43 per cent would be retained in each taxing district and .997 of one per cent would be paid into the state aid fund to be redistributed among the counties.

On this basis a county whose economic resources per pupil were $1,711 would receive from the state aid fund exactly as much as it has contributed, and so would break even. Those counties whose economic resources were less than $1,711 per pupil would receive more than they paid in; there are 52 counties of this sort. Tioga, the poorest county, would raise a total of $23.62 per pupil. Of this amount $5.30 would be paid in to the state, but the county would receive from the state a total of $57.66 per pupil, more than ten times as much as was contributed. New York City and Albany, Erie, Monroe, Nassau, and Westchester Counties would receive less than they contributed to the fund. Westchester, the richest county, would collect in school taxes $97.99 per pupil. Of this amount $22.01 per pupil would be contributed to the state and nothing would be received in return.

Were it to be decided to expend $100 or $125 or any other amount per pupil, the tax rates for school purposes would be changed in corresponding degree, but the ratio between the tax retained locally and that paid in to the state to be redistributed would remain the same.

This illustration is thrown into this form with the expressed intention of avoiding the inference that the Commission desires to suggest that the local tax be levied on real estate. The Commission makes no recommendation regarding the form of the tax system to be used in making the necessary draft upon economic resources.

CHAPTER XIII

THE SEPARATE FINANCING OF SCHOOLS

ATTENTION has been called to the fact that a community which is sufficiently strong economically and is possessed of a sufficiently efficient fiscal system, may find itself frustrated in its effort to secure funds to pay for an educational program it really wants because of the shortcomings of the arrangements provided for ascertaining the community's desires on financial issues.[1] The vacillation to be found in the recent history of school legislation in the State of New York would raise the question sharply as to whether the machinery of representation has been operating efficiently. The adoption of the township as the unit of rural school organization in one year only to be swept away the next, and the opposition which has developed to the continuation school law even before it has come completely into operation are instances. Too little care is taken to make sure that proposals harmonize with the wishes of those who must after all make the sacrifices to pay the bills.[2] This is a broad question of political science which cannot be fully discussed in this report. There is one aspect of it, however, which is of such particular interest at the present time in the State of New York that the Commission has felt justified in gathering the fullest possible data bearing upon it. This is the question of the so-called "fiscal independence" of school boards.

The final decision with respect to the amount of money to be spent for education rests in the majority of the cities of the State of New York with the board of education.[3]

[1] That the public is becoming conscious of the importance of greater accuracy, in determining what the community wants in taxation and public expenditures, is indicated by a recent editorial in the *Saturday Evening Post* which concluded with the declaration that "Taxation without representation is no worse than taxation with misrepresentation."

[2] The possible repressive economic effects of distributing voting power in such a manner that control rests with persons who are not conscious taxpayers is mentioned in Chapter X, p. 155.

[3] Boards of education in the State of New York have absolute powers to fix appropriations in the cities of Auburn, Batavia, Canandaigua, Cohoes, Corning, Dunkirk, Geneva, Mechanicville, Middletown, North Tonawanda, Norwich, Ogdensburg, Olean, Port Jervis, Rome, Saratoga Springs, Sherrill, Tonawanda, Utica, and Watervliet. Oswego is in dispute. The mayor, legislative body, or board of estimate may veto items in the school budget in Amsterdam, Cortland, Fulton, Glen Cove, Gloversville, Johnstown, Kingston, Mount Vernon, New Rochelle, Oneida, Oneonta, Plattsburgh, Rensselaer, Salamanca, Watertown, and White Plains. Such vetoed items may be restored, however, by a two-thirds, four-fifths, or unanimous vote of the board of education. Final authority to fix the school budget, excepting salaries, rests with the board of estimate and apportionment or the legislative body or both in Albany, Beacon, Binghamton, Buffalo, Elmira, Niagara Falls, Poughkeepsie, Rochester, Schenectady, Syracuse, Troy, and Yonkers. In the City of New York the Board of Estimate has the right to fix any appropriations in excess of an amount equal to 4.9 mills on every dollar of assessed valuation of real and personal property of the city. In Hudson the legislative body has power when the amount exceeds an amount equal to $40.00 per pupil.

New York State Bureau of Municipal Information, Report Number 712.

In the larger cities of the state, however, this decision rests with the board of estimate and apportionment, or with the city legislative body, or with both. The issue of the separate financing of schools by municipal boards of education has become acute in the larger cities on account of the two per cent tax limitation imposed by the constitution of the state. Even before this difficulty arose a most lively discussion of the issue had been carried on by such groups as the official organization of the mayors and comptrollers of the state on the one hand, and the boards of education and superintendents of schools on the other.

The issue is not confined to the cities of the State of New York. All over the country the practice varies and argument is carried on most vigorously. Throughout the discussion of the problem in this report, the cities in which the boards of education have complete control of their own finances will be called independent. In these communities, the boards of education levy the tax, collect the money, and expend it according to their own best judgment. The financing of schools is entirely separate from any control by other municipal authorities. In those communities in which the board of education presents its recommendations to a reviewing authority who determines the amount to be expended, and in many cases the amounts for each separate item of the budget, the board of education is called dependent.[1]

In order to secure data upon which to base conclusions with regard to the results of separate financing, as over against dependence upon a general fiscal authority, the Inquiry utilized data from 377 cities reporting to the National Committee for Chamber of Commerce Coöperation with the Public Schools.[2]

Information concerning the number of pupils in average daily attendance was secured from the United States Bureau of Education, while data concerning the issuance of school bonds and bonded indebtedness were secured in part from the Commercial and Financial Chronicle.[3] Figures from this source were found to check very closely with those furnished to the National Committee for Chamber of Commerce Coöperation with the Public Schools.

It is important to note that data were available for cities of all sizes. Of the twenty-five cities whose population exceeds 250,000, twenty-two are

[1] A more complete report on this problem is issued by the Edueational Finanee Inquiry Commission under the titlc, "Fiscal Administration of City School Systems." In this more complete rcport, the citics whieh do not fall in cither of thesc distinctive groups are elassified as "spccial." In this group are placed those eities whose school budgets are passed upon by a eounty eommission or other especially constituted authority, such as the town meeting in New England, or the county authority in Ohio, Oklahoma, and other western states.

[2] These data were made available by an inquiry eonducted by the National Committee for Chamber of Commerce Coöperation with the Public Schools, G. D. Strayer, Chairman, Teachers College, Columbia University, New York City. Published by American City Bureau, New York City. July, 1921.

[3] "Commereial and Financial Chronicle," State and City Section, Part I, New England, Middle, and Central States, June 25, 1921, and Part II, Western, Pacifie, and Southern States, December 31, 1921.

included in this study. A somewhat smaller percentage of cities between 100,000 and 250,000 population are included, approximately four-fifths of them furnishing data. Fifty per cent of the cities between 30,000 and 100,000 are included; and thirty-five per cent of those between 8,000 and 30,000.

The cities were, as well, scattered throughout the various sections of the country. In order to make comparison among the various cities, it is necessary to use some measure of the central tendency or practice for each group with respect to the various items under consideration. In general, three such measures were used. First the " average " or arithmetic mean; second, the median or middle case; and third, a measure obtained by combining the totals for a given group of cities into a single total and treating all the cities in that group as if they were one city or constituted a single school system.

A careful analysis of the total income for school purposes in the 377 cities from which data were available was made in an attempt to discover whether any significant difference existed among the several groups in the percentage of income derived from various sources. The income of each school system was distributed under five heads according as it was derived from (1) the state, (2) the federal government, (3) the county, (4) local taxation, and (5) from all other or non-revenue miscellaneous sources. These amounts were converted into percentages of the total income.

Table 51, which follows, gives the middle case, or mean city, in each of the three groups — independent, dependent, and special.

TABLE 51

SOURCES OF REVENUE FOR SCHOOL PURPOSES

MEDIAN[1] PERCENTAGE OF RECEIPTS FROM EACH OF FIVE SOURCES, 1920

CITIES	STATE	FEDERAL GOVERNMENT	COUNTY	LOCAL TAXES	MISCELLANEOUS
Independent . . .	10.4%	0.0%	0.0%	77.2%	5.4%
Special	8.3	0.0	0.0	69.6	5.1
Dependent . . .	12.4	0.0	0.0	72.1	3.8
All cities	10.1	0.0	0.0	74.2	5.3

[1] Middle case.

The appearance of the zeros for federal and county receipts is due to the fact that more than one-half of the cities show no receipts from these sources. The differences in the median percentages of income derived from the state by the three classes of cities are probably not significant. The amount of money made available to local communities through state subventions is probably in no way affected by the fiscal status of municipal

boards of education. That so large a proportion of the total amount of money necessary to finance municipal school systems is derived from local taxation gives added importance to the question of the fiscal status of the board of education.

A careful study was made to discover whether or not the percentage of the total budget raised locally might be considered significant in relation to the fiscal authority and control of the local school budget. The average percentage raised locally was found to be 73 for the independent cities, and 72 for the dependent cities. It seems improbable that so small a difference in the averages could properly be interpreted as due to the form of fiscal control. In order to make certain whether or not it was significant, the reliability of the difference between these averages was computed.[1]

[1] Two elements must be taken into consideration in determining the reliability of statistical measures of central tendency. One is the wideness of the dispersion or scattering of the individual measures about the average, or other measure of central tendency, for the whole group of measures. The greater this dispersion, the less reliable the average obtained from that particular group of measures.

The second element of importance in determining the reliability of such a measure is the number of cases or individual measures which were the basis for the computation for the average or other measure of central tendency. Other things being equal, the greater the number of cases the more reliable is the average computed from the individual measures for these cases.

To illustrate — let it be supposed that the average for each of two groups of 100 cities is 70 per cent; suppose that in the first group all of the individual measures lie between 67 and 73 per cent inclusive; suppose that in the second group the one hundred different percentages range all the way from 30 to 95 per cent. It is obvious that the true average of the first group is more likely to be the 70 per cent obtained, or that it will fall between 68 and 72 per cent than it is true that the average of the second group shall fall between the same narrow limits. A very little shifting of the measures in the widely scattered group might easily pull the average down to 65 per cent, or increase it to 74 per cent, but it would require a more complete shifting of measures in the closely grouped distribution to produce a like effect.

The other element entering into the reliability of the average, the number of cases, can be easily understood. If we suppose that in two distributions of the percentages under discussion in which we again obtain an average of 70 per cent for each group, that in each case the individual measures range from 60 to 80 per cent, but that in the first distribution there are ten cities represented, and in the second one hundred cities, any one would reach the conclusion without argument that the figure obtained from averaging the one hundred cities would be more reliable. In the case in which we have only ten measures a slight shifting may cause a considerable displacement in the obtained average, while an entirely similar shifting of the same number of cases in the second group would make very little difference.

For those versed in statistics the following formula may prove useful: If N_A be the number of cases and $S.D._A$ be the Standard Deviation of Group A, and N_B and $S.D._B$ the corresponding measures for Group B, the $P.E.$ of the obtained difference between the averages of the two groups is computed by the following formula:

$$P.E. \text{ of difference of average} = 0.6745 \sqrt{\frac{(S.D._A)^2}{N_A} + \frac{(S.D._B)^2}{N_B}}.$$

In case of the percentage of the revenue derived from local sources the $P.E.$ of the difference between the average percentages for the independent and dependent cities is indicated as follows:

$$P.E._{Diff.\ Av's.} = 0.6745\sqrt{\frac{17.0^2}{172} + \frac{19.7^2}{94}} = 1.6 \text{ per cent.}$$

The average percentages obtained from the two groups were — independent cities 73.1 and dependent cities 72.4 per cent. Therefore, the difference in the averages obtained is

$$(73.1 - 72.4) \pm 1.6 = 0.7 \pm 1.6.$$

The obtained difference of 0.7 per cent is too small to be considered significant when we have this measure of the probable error of the difference of the averages found to be 1.6 per cent. If the difference between the averages had been three times as much as 1.6 per cent or greater than that it would commonly have been considered large enough to have called the difference in the averages significant.

The averages actually obtained were 73.1 per cent for the independent cities, and 72.4 per cent for the dependent cities. The reliability of these measures, as determined by carefully considered statistical methods, is best represented by saying that the difference of .7 per cent in the averages obtained is subject to a correction of plus or minus 1.6 per cent. In other words, it is not a significant difference.

If the difference in the obtained average had been three times, or more than three times, as great as the measure of reliability of the difference obtained, that is, if the difference of the obtained averages had been three times 1.6 per cent, or 4.8 per cent, or more, then there would have been justification for the conclusion that the obtained averages indicated a significant difference with respect to the percentage of total revenues derived from local sources in dependent and independent cities. The same technique was applied in the case of a great variety of other measures. The conclusions arrived at will be stated without again presenting the method employed.[1]

One of the most important findings recorded in the following table is that the total expenditure per pupil in average daily attendance for all school purposes shows practically no difference as between the cities whose schools are separately financed and those in which the school budget is determined by the general municipal fiscal authority. The investigation shows conclusively that the separate financing of schools has not resulted in extravagance.

The significant differences with respect to fiscal administration are such as to leave the question of the desirability of one form of administration as over against the other to be determined by other considerations. The cities in which the boards of education are in complete control of the finances of the school system, including the right to levy taxes, show a larger tax rate, a larger percentage of the total municipal tax rate devoted to schools, a larger expenditure per pupil in average daily attendance for general control, for maintenance of plant, for fixed charges, capital outlay, and debt service, than do the dependent. On the other hand, the communities in which the boards of education are dependent upon the general municipal authority show a larger bonded indebtedness per capita, and a larger expenditure for instructional service. The technique employed in determining which of these differences were significant was applied as well to certain educational factors reported in Dr. G. W. Frasier's study

[1] A special inquiry was undertaken with respect to the limitations, in the rate of tax which may be levied, imposed upon boards of education that enjoy fiscal independence. Reports were received from 94 cities. Of the group 77.7 per cent reported a limit fixed by law, while 28.8 per cent having a legal maximum reported that they were now levying a tax equal to the maximum permitted to them. That more than 70 per cent of the boards of education limited by law in the amount of tax which they could levy are financing the schools on a levy lower than that permitted by law is to be interpreted as definitely establishing the fact that they have accepted full responsibility for the financing of schools in their several communities. They are not merely operating upon the basis of a tax levy established for them.

entitled "Fiscal Control of City School Systems." It was found that the independent cities showed a greater percentage of 16- and 17-year old children enrolled in the schools; that they provided a larger percentage of

TABLE 52

DIFFERENCES FOUND BETWEEN CITIES HAVING INDEPENDENT AND DEPENDENT BOARDS OF EDUCATION IN TERMS OF CERTAIN OBJECTIVE MEASURES

275 American Cities Reporting for the Year 1919–1920

	Average for Independent Cities	Average for Dependent Cities	Critical Ratio of Difference between Averages
A. *Significant Differences*			
1. Financial Factors			
a. Percentage of real valuation at which taxable property is assessed	69.1	84.6	9.7
b. School tax rates per $100 real valuation	$0.915	$0.77	3.4
c. Percentage which school tax rate is of total municipal tax rate	41.4	33.3	5.8
d. Municipal bonded indebtedness outstanding per capita	$43.46	$56.92	4.8
e. Percentage which school bonded debt is of total municipal bonded debt	38.1	31.2	3.7
f. Percentage which total municipal bonded debt is of total real valuation of taxable property	3.5	4.1	3.0
g. General control, expenditure per pupil in A. D. A.	$3.08	$2.53	4.6
h. Instructional service, per pupil	$45.19	$51.54	4.6
i. Teachers' salaries, per pupil	$38.25	$42.97	4.1
j. Maintenance of plant, per pupil	$3.33	$2.80	3.1
k. Fixed charges, per pupil	$1.10	$0.50	15.0
l. Capital outlay, per pupil	$5.64	$3.91	10.2
m. Debt service, per pupil	$9.22	$4.97	5.6
n. Percentage of increased cost of living from 1913–14 to 1919–20 that was met by increased salaries for women elementary teachers	76.3	63.1	3.0
2. Educational Factors			
a. Percentage of sixteen and seventeen year old children in school	41.8	32.9	4.4
b. Percentage of pupils having sixty or more square feet of playground each	58.4	39.7	4.5
c. Percentage of women elementary teachers having six or more years of training above eighth grade	69.7	77.9	3.2
d. Percentage of children enrolled who attend school all day, and in adequate buildings owned by the city	93.2	88.1	3.4

TABLE 52 (*Continued*)

	Average for Independent Cities	Average for Dependent Cities	Critical Ratio of Difference between Averages
B. *Differences Probably Not Significant*			
1. Financial Factors			
a. Percentage of total school revenue derived from local taxation . . .	73.1	72.4	0.5
b. Real valuation of taxable property per capita	$1,367	$1,509	2.1
c. Total municipal tax rates per $100 real valuation	$2.24	$2.34	1.3
d. School bonded indebtedness per pupil in A. D. A.	$99.73	$116.03	2.2
e. Percentage which school bonded debt is of real valuation of taxable property	1.3	1.2	0.8
f. Total expenditure for all school purposes, per pupil in A. D. A. . . .	$83.28	$84.29	0.3
g. Current expense for schools, per pupil	$63.04	$67.49	2.4
h. Operation of plant, per pupil . .	$8.51	$8.54	0.1
i. Auxiliary agencies, per pupil . . .	$1.34	$1.58	1.9
j. Health service, per pupil	$0.49	$0.51	0.5
2. Educational Factors			
a. Percentage of elementary classes having fewer than forty pupils enrolled	65.7	69.8	1.3

their pupils with sixty or more square feet of playground space each; and that a larger percentage of the children enrolled attended school all day in adequate school buildings owned by the city. It appeared that the dependent cities had a somewhat larger percentage of women elementary school teachers who had six or more years of training beyond the grade of the elementary school.

In the light of the evidence made available by this inquiry, the separate financing of municipal school systems must be considered on ground other than that of the cost to the community, since the costs of schools administered under the two forms of organization are approximately equal.

CHAPTER XIV

PROBLEMS OF ORGANIZATION AND ADMINISTRATION

Budgetary Procedure in the State of New York

The General Education Law of the State of New York provides that the board of education of each school district shall "present at the annual meeting a detailed statement in writing of the money which will be required for the ensuing year for school purposes."[1] It is also provided "after the presentation of such statement or estimate, the question shall be taken upon voting the necessary taxes to meet the estimated expenditures, and when demanded by any voter present, the question shall be taken upon each item separately. . . ."[2]

Incorporated villages or cities in which union free schools shall be established "shall have the power, and it shall be their duty, to raise, from time to time, by tax, to be levied upon all the real and personal property in said city or village, as by law provided for the defraying of the expenses of its municipal government, such sum as the board of education established therein shall declare necessary for teachers' salaries and the ordinary contingent expenses of supporting the schools of said district.

"The sums so declared necessary shall be set forth in a detailed statement in writing, addressed to the corporate authorities by the board of education, giving the various purposes of anticipated expenditure, and the amount necessary for each; and the said corporate authorities shall have no power to withhold the sums so declared to be necessary; and such corporate authorities as aforesaid shall have power, and it shall be their duty to raise, from time to time, by tax as aforesaid, any such further sum to be set forth in a detailed statement in writing, addressed to the corporate authorities by the board of education, giving the various purposes of the proposed expenditure, and the amount necessary for each which may have been or which may hereafter be authorized by a majority of the voters of such union free school district present and voting at any special district meeting duly convened. . . ."[3]

In like manner, in the cities of the State of New York operating under special statute and charter provisions, the board of education is required to prepare a budget and to submit it to various reviewing authorities.

[1] Education Law, July 1, 1921, Section 323.
[2] Education Law, July 1, 1921, Section 324.
[3] Education Law, July 1, 1921, Section 327.

In a great majority of the cities of the state, the board of education exercises final authority as to the amounts that shall be expended for schools.[1]

The general law of the State of New York provides that estimated expenditures be made in three divisions — (1) salaries, (2) incidental and contingent expenses, and (3) capital outlay and debt service. Under each of these general heads are listed detailed items for which estimates shall be made. The budget for the City of Rochester gives a classification of expenditures by character, function, and object. These items are conveniently grouped, making a rapid analysis possible. Neither in the general law of the state nor in the practice of most of the school boards, are income and work programs included as a part of the budgetary procedure. They must, one supposes, enter in some degree into the thought of those who develop the estimates of expenditure. Sound procedure would require that both the estimates of income and the work programs be as clearly and definitely placed before the reviewing body and before the electorate as are the estimates of expenditures.

The inability of the very great majority of communities in the State of New York to report accurately their expenditures for such general functions as instruction, maintenance of plant, operation of plant, and the like, segregated with respect to certain divisions of the school systems — kindergartens, elementary schools, junior high schools, high schools, vocational schools, — is evidence of a failure to keep the accounts necessary for efficient budgetary procedure. If budget estimates are to be accepted as valid, they should be based upon a careful analysis of costs that have been incurred in the years which have preceded. It is only with such a sound basis in cost accounting that reliable estimates can be made with respect to contemplated expenditures.

Salary schedules adopted commonly throughout the state, on the other hand, have contributed in very considerable measure to the development of budgetary estimates which approach the actual needs of the school system. If in connection with the salary schedule adequate estimates of the turnover in this type of service, together with the levels in the salary schedule at which new teachers enter the service, are coupled with a careful study of the expectancy with respect to the enrolment for the ensuing year, a large percentage of the total budget may be estimated with a reasonable degree of accuracy.

Estimates of the cost of other personal service such as clerks, engineers, janitors, can be estimated with as clear or greater assurance than the estimates for teachers' salaries. If the account is sufficiently adequate to show unit costs for the various divisions of the school system, it will likewise be possible to estimate with a very small percentage of error the cost

[1] See p. 177, footnote 3.

of instructional service, supplies, and the materials used in the maintenance and operation of the school plant.

An interesting sidelight is thrown upon present budgetary procedure when the facts with respect to cash balances on hand are examined. At the beginning of the school year 1920, there were cash balances on hand amounting to more than 43 millions, or about 25 per cent of the entire amount available for schools during that school year. Upon investigation most of the larger balances were found to represent the proceeds of bond sales not yet disbursed for the buildings for which they were intended. But this was not true in all cases where the cash balances were large. In the City of Gloversville, for example, a cash balance had been accumulated over a period of years which was so large that no school tax at all was necessary in 1920. A similar situation was found to exist in a half dozen rural school districts, mostly contract districts which sent their pupils to schools in other districts and had no charges to meet except tuition. One district had a balance sufficiently great to meet the total estimated expenses for three years in advance, without taking into account the substantial subsidies which it received from the state. Such cases are distinctly exceptions. On the other hand, a large number of districts reported no cash balance at all. Yet the small size of the temporary debt and the fact that only two districts reported deficits — in both cases negligible in amount — raise a presumption that the school boards are very generous in their budget estimates.[1]

In most cases there appears to be no occasion for large cash balances at the beginning of the school year, taxes being collectible early in the period, before any large disbursements are made. Certainly there is no justification for depriving taxpayers of the use of their money for periods of several years before it is actually needed for school purposes.

Sound budgetary procedure requires not only accurate estimates of costs, but also estimates of income and a statement of the work program to be followed. It is only as income is balanced against estimated costs

[1] A fairly comprehensive view of the situation regarding cash balances is given in the following statement of the average relationship between cash balances and total funds available for the year in the sample studied. (See p. 104.)

	Median[1] Per Cent	Arith. Mean[2] Per Cent
County aggregate including New York City	8.7	24.9
County aggregate excluding New York City	8.4	12.7
City, including New York City	8.9	28.4
City, excluding New York City	8.6	14.3
Villages over 4,500	2.5	8.4
Union Schools	4.8	8.6
Rural Schools	6.9	10.1

[1] Middle case. [2] Average.

that it becomes clear that any particular program can be financed out of the revenues available. It is of the greatest importance that budgetary procedure be improved; that boards of education adopt budgets which limit their appropriations to their income, and that they confine their expenditures to the appropriations voted. With such procedure established, the electorate of the several communities involved may be expected to show a more intelligent interest in the program of education decided upon, and to be more willing to face the issue involved in the adequate support of their schools.

School Accounting

As has already been indicated in the discussion of budgetary procedure, there is great need for more adequate accounting in most of the school systems of the State of New York. The State Department of Education has made available a system of accounting and has provided instruction for the installation of this system. If all of the communities within the State of New York followed the directions furnished, it would be possible to establish unit costs.

Such an analysis of the expenses of school systems would prove most helpful to the local administrative officers in the financing of their school systems. The reports based upon such accounting are essential to the development of any adequate state supervision or responsibility for the financing of schools. It is apparent, from the failure of a large majority of the cities of the state to make adequate returns from the forms based upon the state system of accounting, that most of the school authorities have not considered it necessary or expedient to establish as adequate accounting as that recommended by the State Department of Education.

The administration of schools in the smaller villages and rural areas by lay boards of education, without adequate professional administrative service, precludes the possibility of accurate accounting for these areas. Only as larger units of administration are organized can we hope for the development of satisfactory accounting and of satisfactory budgetary procedure in these areas.

Sound administrative procedure calls for the development of adequate accounting in all school areas within the state. It is only as administrative officers or boards of education know with exactness the cost of any particular part of the educational program that they are competent to pass upon the question of its continuance or development. Without a very much more adequate system than is now commonly practiced, it is not possible for school authorities to discover the waste which may exist within the whole or some part of the school system, or to plan adequately the program of work to be undertaken in future years.

Financing Capital Outlays

In cities with coterminous school-district and city boundaries, school bond issues are subject to the same limitations as other city bond issues. In cities whose school-district and city boundaries are not coterminous, in union free school districts, and in rural districts, school bonds are issued on a majority vote of the electorate. In districts with an assessed valuation in excess of $500,000 the amount of such issues may not exceed fifteen per cent of such assessed valuation, except upon the vote of two-thirds of the electorate. No legal limitation is placed on the amount of the issues of other districts, but the purposes are restricted to capital outlays and refunding.[1] The rate of interest is limited to six per cent and bonds may not be sold below par.

Statements have been made in an earlier chapter[1] regarding the extent to which new plant has been financed from current expenses. Table 53 shows the relationship of the school bonded debt to real estate values, to the values of school property, and to total bonded indebtedness for all purposes, in the cities, villages, and towns in 1920.

TABLE 53

GROSS BONDED DEBT FOR EDUCATION COMPARED WITH FULL VALUE OF TAXABLE REAL ESTATE, VALUE OF SCHOOL PROPERTY, AND BONDED DEBT FOR ALL PURPOSES — CITIES, VILLAGES, AND TOWNS — STATE OF NEW YORK, 1920

	New York City	Other Cities	Villages and Towns
Ratio of bonded debt for education to full value of taxable real estate	1.4%	1.1%	.5%
Ratio of bonded debt for education to value of school property	76.3	37.8	23.42
Ratio of bonded debt for education to total debt for all purposes	8.0	1.8	27.8

Data concerning the relationship of net indebtedness to the value of school property in 1920 are presented in Table 54.

It has not been possible to check adequately the figures for the value of school property; but from such evidence as is available, the valuations seem to be low. The valuations given in the report of the State Tax Commission are very much lower, but on the other hand, valuations of buildings made by insurance men run about thirty per cent higher. This means that the ratio of the outstanding debt to the value of school property as given in the table is high, rather than low. It is clear that in

[1] See p. 106.

the aggregate the school property of the state is not bonded to an extent which approaches closely the theoretical limit. Taking the state as a whole, the outstanding bonded debt in 1920 amounted to 56 per cent of the value of sites and buildings. If cash balances are subtracted from the outstanding bonds, the percentage drops to 35. However, there exist particular cases where borrowing has been carried to an extremely high point. The City of New York is more heavily bonded for school purposes than other cities according to all three methods of measurement used in Table 53. The village and rural schools have utilized their credit relatively little to finance their operations.

TABLE 54

RATIO OF NET INDEBTEDNESS [1] TO TOTAL VALUE OF SCHOOL PROPERTY — STATE OF NEW YORK, 1920

	High Case	Middle Case	Low Case	Arithmetic Average
County aggregate	58.8%	12.4%	None	35.1%
City	75.2	23.2	None	39.8
Villages over 4,500	76.3	27.5	None	30.8
Union School	78.7	.8	None	21.0
Rural School	1435.0 [2]	None	None	12.1

[1] Bonded plus temporary, with sinking funds and cash balances subtracted.

[2] There are three cases of rural school districts which report a net debt in excess of property values, with percentages of 1435, 235, and 114 respectively. In 1921, the first of these reports no debt at all and the other two report debts of approximately 80 per cent and 50 per cent of the value of school property. These are apparently, therefore, not cases of excessive indebtedness, but rather districts which were erecting new buildings and had not yet changed the valuation in the report. In each of the three cases there is a large increase in the value of property reported in 1921.

Table 55 gives the bonded debt per child of school age for the various classes of districts in 1920. It is of interest to note the heavy debt of villages as compared with union school and rural school districts.

TABLE 55

BONDED DEBT PER CHILD OF SCHOOL AGE — STATE OF NEW YORK, 1920

	High Case	Middle Case	Low Case	Arithmetic Average [1]
County aggregate	103.74	17.35	None	71.51
City	178.85	32.41	None	94.36 [2]
Villages over 4,500	437.61	42.43	None	66.15
Union School	341.46	4.37	None	42.41
Rural School [3]	700.00	None	None	15.70

[1] The arithmetic average is much higher than the median or middle case because it is greatly influenced by the large debt occurring in a few cities and districts.

[2] The average for New York City is $96.49 and for other cities $54.83.

[3] More than three-fourths of the rural schools studied reported no bonded debt.

It is possible for municipalities and for school districts in the State of New York to issue bonds under either the serial or the sinking fund plan.[1] The net cost to the community of serial bonds is the same as the cost of so-called straight or sinking fund bonds, provided the sinking fund earns interest at the same rate that the bonds bear. In point of fact, however, municipal sinking funds are not always maintained at this high degree of efficiency. It has sometimes happened that through mismanagement not only have interest rates been too low on the sinking fund as it is accumulated, but the temptation to borrow from the sinking fund for current expenditures has sometimes been too strong to be resisted. From the administrative standpoint, as well as from the strictly fiscal point of view, it would probably be best under existing conditions to require that all bonds issued be of the serial type.

Insurance

Fire losses constitute a relatively small item in the general charge for capital outlay during any one year. Over a period of years for an area the size of New York, this loss becomes considerable. Educational institutions in the United States lost more than twenty-six million dollars worth of property by fire in the period 1916–1920 inclusive. If such losses are avoided or reduced, it will be because fires are prevented. That the probability of destruction of school buildings by fire varies with the type of structure and with the fire protection offered by the community, is indicated by the variation in rate among the different types of school units within the State of New York. The middle case three-year term rates per $100 for insurance of school buildings in the State of New York are as follows:

Cities of the second class	$1.09
Cities of the third class	1.00
Villages over 4,500	1.00
Union free school districts . . .	1.18 to 1.46
Rural schools	1.50

A wide variation exists in the rate charged, determined by the class of construction, the provision made for preventing or extinguishing fires, and the location of buildings. If losses are to be avoided, it will be because fireproof buildings are constructed, because old buildings are carefully renovated and fire prevention equipment installed, and because there is an insistence upon that kind of good housekeeping which reduces fire risks.

[1] "Under the provisions of the Education Law, sections 480 and 877, subd. 1–c, bonds may be issued for the general purposes of the acquisition of school sites and the erection of school buildings. There is no statutory limitation as to the duration of these bonds found in the Education Law except as issued by a common school district in which the limitation is twenty years from the date of the meeting at which the bonds were voted. It is customary to issue such bonds for periods varying from twenty to forty years although we recommend that in union free school districts the bonds should not extend beyond a period of thirty years."

(From a letter of Irwin Esmond, Assistant Counsel, the University of the State of New York, State Department of Education, Albany, March 9, 1923.)

A considerable gain would be made if heating plants were always inclosed within fireproof walls, entered only by self-closing fireproof doors; if basements, shops, laboratories, and other spaces where the fire risk is greatest were equipped with sprinklers; and if small and easily manipulated fire extinguishers were made available at frequent intervals throughout the school buildings.

For the individual community, unless it be a large city, fire insurance in the commercial companies should be carried. If the sort of fire prevention which has been suggested were commonly practiced, the rate of insurance on school buildings might be expected to be reduced. But even with the present rates, it is good administrative procedure for all except the larger communities to share the liability to loss with other communities over a large area by insuring their buildings.

Codification of the Education Law

During the course of its investigation the Commission has been impressed by the confused state of the education law. The difficulties involved in administering a school system are greatly increased when the legal provisions defining powers, duties, and limitations are not clearly stated. In the State of New York the law is in many respects not clear, not complete, and difficult of interpretation. As an illustration the reader is referred to the sections which purport to set forth the requirements with respect to the general educational program discussed on pages 22–28. The recodification of the education law, which would simplify, clarify, and eliminate inconsistencies, would, in the opinion of the Commission, prove to be a substantial aid to efficient administration.

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Notes:

1. Unless otherwise indicated, all references are to public (tax-supported) education and for the State of New York only.
2. The terms *federal, state, local, cities, villages, union schools,* and the like, seldom occur as main heads. Material on them is to be sought in subdivisions of other items as *expenditures, debts,* and the like.
3. Plain numbers as 35, 51 refer to pages; numbers preceded by T, as (T36), to tables; numbers preceded by D, as (D1), to diagrams.
4. A page reference less than 17 indicates a summary.

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